

To

Ms Christine van Wijke

822 INAN91

With Compliments
NAP office
Hyderabad
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VILLAGE LEVEL
WATER SUPPLY MANAGEMENT

STUDY ON:
NALGONDA MANDAL
NALGONDA DISTRICT

LIBRARY

SANITATION

REFERENCE CENTRE
WATER SUPPLY

P.J. JOB, SOCIAL SCIENTIST.

D. SHESHAIAH SHASTRY, WATER & SANITATION ENGINEER

NALGONDA

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LIST OF ABBREVIATIONS

1. PRED.	Panchayati Raj Engineering Department.
2. NAP.	Nether Lands Assisted Projects.
3. PWS.	Protected (Piped) Water Supply
4. MPWB.	Mini protected Water Supply
5. B.W.	Bore Well
6. H.P.	Hand Pump
7. O/M.	Operation and Maintenance
8. G.P.	Gram Panchayati
9. MPPP.	Mandal Praja Parishad President
10. MDO.	Mandal Development Officer.
11. Z.P.	Zilla (District) Parishad.
12. D.D.O.	District Development Officer.
13. E.E.	Executive Engineer.
14. D.E.E.	Deputy Executive Engineer.
15. A.E.	Assistant Engineer.
16. ICDS.	Integrated Child Development Scheme.
17. V.D.O.	Village Development Officer.
18. DM&HO.	District Medical and Health Officer.
19. MPH.W.	Multi Purpose Health Worker.
20. WS	WATER SUPPLY
21. CP	COMMUNITY PARTICIPATION
22. H.C	HOUSE CONNECTION
23. PSP	PUBLIC STAND POSTS.

SUMMARY OF FINDINGS & RECOMMENDATIONS

The findings are based on study of 5 P.W.S. Schemes 2 M.P.W.S. Schemes and 144 Hand Pumps in 11 villages in Nalgonda Mandal.

A. 1. Efficiency: - Calculated from hours of pumping and hours of supply/day - average for 5 PWS. Schemes.

The RWS. are pumping 15.6 hours/day and a distribution of 2 hours/day.

connections on pump main

This also increases the electricity charges of the schemes.

The two M.P.W.S. Schemes have better efficiency 2.4 hours pumping and 2 hours distribution.

The cost of maintaining a hand pump is Rs.800/- year approximately i.e. $800 \div 28 = Rs.28.57$ per family/year.

(There are 250 Hand Pumps in the mandal- Population = 35162, i.e. 1 Hand Pump for 140 or 28 families).

use of water for all per 250 / 1 H less water available

2. Level of functioning: The coverage of PWS. Schemes are partial. On an average only 52% of the people in the target area get water.

The 2 MPWS. Schemes cover 90% of the people of the target area.

dec in MPWS

The Hand Pumps: 68.74% of hand pumps were working and 31.3% were out of order, when surveyed.

Parameters
- Qty
- Time allocation
- between sections
- losses
- pumping efficiency
Qty/time
less more or less

GOAP: 360 =
Analysis
- reasonable in people?
- water 90%
- compare 3/2
- cover 3/2
- wear clean

B. Nature of O/M Problems:

1. PWS Schemes:- The most common O/M Problem is the alleged technical problems of schemes not cleared at the time of handing over.
2. Too many house connections (legal illegal and even on pumping main) choking the schemes (*coverage*)
3. Financial, administrative, managerial inability of G.P.

The M.P.W.S. have all these problems to a lesser degree (*source is far away: less usage, other sources*)

The Hand Pump: Most noted problem facing the hand pump is lack of spare parts, and ~~Non~~-Availability of Mechanics in time.

C. RECOMMENDATIONS:

1. Implementing agency to ~~hand~~ operate and maintain the scheme for 6 months after commissioning before handing over PWS/MPWS Schemes. (*O/M budget for months in estimate*)
2. Implementing agency to hand over scheme, with handing over note containing instructions for O/M, design flow chart, capacity, with an on the job trained operator, model by-laws for distribution, financial feasibility vis-a-vis suggested tariff and a O/M estimate:-
3. The handing over to be done in a public function so that owner-ship is clear in public eye.
4. The implementing agency to retain the power to inspect | *responsibility* monitor the schemes whenever necessary (

*small com
MPWS
large PWS?*

*+ willingness
to hand
+ means
to pay
DPO (Nak)*

5. The implementing agency must assess the ^{performance} ~~technical~~, financial, administrative, institutional, status/capacity of O/M. Agency before handing over. If any of these are found wanting, the O/M. Agency must be supported to attain a minimum status before taking over O/M responsibilities.

Technical
Financial
Administrative
Institutional.

OPTIONS FOR BETTER O/M OF R.W.S. (TENDATIVE)

Sl. No.	Area of Concern.	Options	Merits/Demerits.	Study Indicates.	Consequences.
1.	O/M Agency.	1. Gram Panchayat	Less Functional.	Strong Reasons for either of the Options.	Statutory.
		2. Users Committee Water Committee	Will Function Better.		Relation with Gram Panchayat Accountability
2.	Finance Collection Agency.	1. O/M Agency in Village.	No enforcing machinery	Revenue Deptt.	Collects from users according to type.
		2. Revenue Department (less & Land)	has enforcing Machinery, Finance sure.		According to Land holding including Non-users.
3.	Finance Administration.	1. O/M Agency Village)	4. Faster: Answerable to Users.	O/M Agency Village Level.	Less Accountability for cash.
		2. PRED/MDO.	2. Delays.		Less Accountability for Water Supply.
		3. Sharing: Village Committee, Minor PRED/MDO. Major.	3. Delays. No. Gurantees not answerable to users.		
4.	Institution for O/M.	By Official Burocratic Method. Using C.P. Methods (incolving Women).	Fast - Less Functional. Slow - More Functional.	Use of C.P. Methods.	Needs Short term administrative beurocratic Supports. Needs Long term support from a No. of Agencies.

marginal
Other Reforin [Technical] (PRED)!
under GP.

no scope (cost) + try up.
Ex Officer! Franchinany

Polices

Needs Long term support from a No. of Agencies.

Chapter - I: Background to study.

1.1.1. Introduction:

The Andhra Pradesh State drinking water supply schemes executed by Panchayati Raj Engineering Department has installed 1.60 lakhs Bore wells with hand pump - 7932 PWS/MPWS and 10 CPWS schemes so far, at an estimated expence of 543 crores. These assets are scattered through out the State. The most critical issue now being faced by Panchayati Raj Engineering Department is the Operation Maintenance of the RWS created.

1.1.2:

At present the practice in the hand over the PWS/MPWS schemes to the Gram Panchayat after its completion. Often the Gram Panchayat's have neither the financial resources or the technical know how to manage the scheme Hence majority of schemes operate below acceptable standards.

1.1.3. At Present:

1. The Hand Pumps are managed by the department by deducting Rs.1 per head grants from Government to Panchayat.
2. CPWS ~~managed~~ schemes are fully managed by department.
3. There is no systematic water tarrifing at the village level.

1.1.4:

The N.A.P. Office is concerned about the O/M of water supply schemes constructed by Netherlands support in the context of the poor O/M of schemes in the State. For this reason it is felt that careful study of the O/M practices is necessary to arrive at a systematic approach to this problem.

1.2.1: CONSTITUTION OF PANCHAYATI RAJ ENGINEERING DEPARTMENT COMMITTEE AND EXTERNAL STUDY TEAM:

The Government of Andhra Pradesh has responded to this grave situation by constituting a committee of Panchayati Raj Engineers with Mr. C.T. Venkateswarlu, Deputy Chief Engineer as the Chairman. (vide G.O.No.21857/RWS.III/90 dated 30.6.1990.)

1.2.2:

The Panchayati Raj Engineering Department Committee has appointed an external study team to collect relevant data on the subject from the field and make recommendations to the Committee.

OBJECTIVES OF THE STUDY:

The ultimate objective of the study is to evolve and recommend to GOAP strategies, institutions, financial, technical and administrative procedures for efficient and sustainable O/M of rural water supply schemes.

Apart from Panchayati Raj Engineering Department Engineers, administrators, policy makers and opinion leaders are to be involved in various phases of the study, through workshops, consultations and seminars.

The study team shall collect, assemble and analyse primary and secondary data on the following aspects as related to O/M of Rural Water Supply in Andhra Pradesh.

1. Efficiency/sustainability/level of functioning of all types of rural water supply schemes in 7 mandals of 7 districts in Andhra Pradesh, and the nature and reasons for recurring O/M problems.

2. Feasible/sustainable/replicable and viable options for:

- Technical
- Administrative
- Financial
- Institutional

arrangements for O/M of rural water supply, and for in service training of personnel.

Specific areas of responsibility under the options proposed for:

- P.R.E.D.
- G.P.
- Community
- Any other agency

Feasible/replicable options for ensuring the participation of the community and especially of women in health/hygiene education, sanitation around water supply monitoring the regularity of supply, feed back on breakdown, prevention of wastage/vandalism, cost sharing etc.

Replicable arrangements for internal and external water quality monitoring and for follow up of corrective/preventive measures.

Data on willingness and ability to pay.

Data on water consumption patterns across a cross section of the community.

Model bye-laws statues for the management of O/M under the arrangements proposed by the study, after review of such acts and of their effectiveness in other departments, states.

METHODOLOGY FOR THE STUDY:

The team shall study the functioning of all types of schemes in the selected mandals: HP/MPWS/PWS/CPWS and their recommendations shall cover all these technologies. The team shall also hold discussions with PRED personnel, elected representatives of the people, district officials, NGO's, women, opinion leaders etc.

After the study of each mandal is completed, the team shall prepare a draft report of its findings and recommendations covering the items listed in the TOR, for discussion with the PRED Committee.

After the study of all 7 mandals is completed, the team shall prepare a comprehensive report of findings and recommendations for being implemented in the mandals studied.

These shall first be discussed with PRED and then presented in a state level workshop for obtaining the views of senior Engineers, administrators, political leaders and other experts.

Based on the feed back, the team shall finalise the report and recommendations to be presented to the Chairman of the PRED Study Committee.

While undertaking the study, the team shall proceed on the following assumptions:

- a. It is not feasible for financial/administrative reasons that GOAP assume full O/M responsibility.
- b. For the time being, at least 50% of O/M costs have to be shared by the users.

- c. When thinking of institutional viability, the unit of operation need not necessarily correspond with a mandal. However, at the ground level, the G.P. is to be considered as the local unit.
- d. O/M cost sharing need not necessarily mean that each G.P. has to meet 50% of the cost of O/M. Cross-subsidy between sections of population/panchayats may also be considered as a feasible option.

Only if these assumptions are not found valid, may alternate sets of assumptions taken up.

1.5. PILOT STUDY:

The Shamshabad Mandal in Ranga Reddy District was taken up for Pilot Study. The team has submitted a report at the end of this study to the PRED Committee on 18th August, 1991. The Panchayathi Raj Engineering Department Committee has studied the report and made several suggestions, especially in the writing of the study report. These suggestions are taken into account in the study and report preparation in this report on the Nalgonda Mandal.

GENERAL INFORMATION ABOUT THE DISTRICTCHAPTER - 2GEOGRAPHICAL :

2.1

The Nalgonda district lies in the Southern part of Telangana region. It is hilly region as the name indicates. Important rivers like, Krishna, Musi, Aleru, flow through this district. It has area of 13,877 sq.Kms. 45% is under cultivation, about 7% is barren uncultivable and 7% is forest (Shrub) area. The average rainfall is 77.2mm and temperature reach up to 110°F in summer months of April and May.

POPULATION :

The population of the district is 22,79,685 (1981 census) 88.6% live in rural areas. 16.3% are scheduled caste and 8.6% are schedule tribes. The literacy rate is 22.4% .

FOR ADMINISTRATION, THE DISTRICT IS DIVIDED INTO 3 DIVISION, 59 MANDALS, 1001 GRAM PANCHAYATS AND 4 MUNICIPALITIES.

NALGONDA DISTRICT

S.No	Administrative Divisions	No.of Mandals	No.of Gram Panchayat	Municipalities
1.	Nalgonda	25	329	2. Nalgonda Suryapet
2.	Bhongir	14	278	1. Bhongir
3.	Miryalaguda	20	394	1. Miryalaguda
<u>Total</u>	3	59	1,001	4

Of the 1001 Gram Panchayats 48 are notified Panchayats and 953 are non-notified Panchayats.

Table showing; population mandal wise with Sc / St population and number of panchayats.

2.2 ECONOMY OF THE DISTRICT

2.2 The district has prodominantly an agrarian economy. The main crops are castor, Paddy, Jawar, Bajira, Pulses, Chillies and Groundnuts.

The revenue collected in the district in 1988-89 was;

Demand :	Rs.10941.75	lakhs.
Collection	Rs.10444.81	lakhs.

Balance	Rs. 741.96	lakhs.

The budget for the district and the study Mandal-Nalgonda Mandal is given below:

BUDJET - 1989 - 90

	Nalgonda Mandal in Rupees.	Nalgonda District in Rupees.
Old Balance	10, 11, 634.61	10, 47, 61, 633
Receipts	40, 25, 021.76	41, 22, 16, 739
Total	50, 36, 656.37	51, 69, 78, 372
Expense	42, 96, 223.80	39, 96, 19, 260
Cutting Balance	7, 40, 432.57	11, 73, 59, 111

2.3 PANCHAYATI RAJ ENGINEERING DEPARTMENT SET UP IN DISTRICT.

The Panchayat Raj Engineering Department set up consists of a Chief Engineer for state, Superintending Engineers for districts, Executive Engineers for Divisions in the district, deputy Executive Engineers for Sub-Division in the Divisions and Assistant Engineers at Mandal Head Quarters of the Sub-divisions.

2.3.2. The set up in the Nalgonda district is shown below :

1. Superintending Engineer for Nalgonda and Ranga Reddy Districts.
2. 3 Executive Engineer in the 3 administrative divisions of Nalgonda, Bhongir, Miryalaguda.
3. Deputy Executive Engineers at 6 Sub.Divisions in the Nalgonda division.
4. Junior Engineers at Mandal Head quarters.

Superintending
Engineers.

Nalgonda -
Ranga Reddy
Districts.

Nalgonda
Division
Executive
Engineer.

Nalgonda
Sub. Divi-
sion Deputy
Executive
Engineer.

Junior
Engineer
at Nal-
gonda
Mandal.

For the maintenance of PWS , MPWS., and hand pumps, the department has Mechanics at every Mandal and a mobile team at every division. The mobile team consists of a Driver, Senior Mechanic, and three helpers. They move to different parts of the division distributing spare parts and carrying out major repair, works like fishing and flushing beyond the capability of the mechanics at the mandal level.

The water quality testing is done at the department lab at Hyderabad. The IPM had established a lab at the district, Medical and Health Office Nalgonda. This lab functioned upto 1978 - measuring flouride content of water sources in the Nalgonda district. At present the lab is not functioning and the equipments are lying idle. A new lab is being planned at the district head quarters.

2.3.5

There are 12 NAP schemes in the district and at present the department has taken over the responsibility of maintaining these scheme.

2.4

DATA ON NUMBER / TYPE AND LEVELS OF WATER SUPPLY
IN THE DISTRICT.

2.4

There are 3 types of Water Supply in the district. They are protected Water Supply - piped water supply (PWS) Mini piped water supply (MPWS) and spot sources - Bore wells with hand pumps (H.P) .

2.4

The following table shows the distribution of there types in the three different divisions in the district (also indicated NAP - PWS - Schemes).

RWS - COMPLETED SCHEMES , 1990

S.No.	Name of the Division	No. of Mandals	PWS Total	PWS NAP	MPWS	Hand Pumps
1.	Nalgonda	25	61	9	81	4,224
2.	Bhongiri	14	24	-	40	2,300
3.	Miryalaguda	24	30	3	54	2,910
Total for Districts		63	115	12	175	9,950

RWS CAPITAL COSTS - O/M COSTS

The department receives funds under various heads for its new projects (capital costs) and for maintenance.

The following table shows the funds allocated for capital costs in 1990 - 91 .

	Nalgonda Rs./Lakhs	Bhongiri Rs./lakhs	Miryalaguda Rs./Lakhs.
<u>Capital Costs</u>			
Regular funds allocated	31	16	24
MNP (SC)	7.05	2.20	2.55
ARWS Plan	24.00	14.00	14.00
ARWS (SC)	5.2	5.4	5.4
Defloridation	48.14	11.45	-
Funds release	35.45	7.30	9.45

RWS. MAINTENANCE COSTS IN LAKHS OF RUPEES

1990 - 91

Item	Nalgonda	Bhongiri	Miryalguda	Total
NAP., Scheme	2.24	-	-	2.24
<i>Others?</i> Bore Wells and Hand Pumps	30.01	8.35	10.04	33.79
Additional (crucial balance)	3.41	-	-	3.41
No. of Mobile teams	1	1	1	3
No. of Mechanics	56	40	30	126

Note: Amount spend on H.P. O/M in Nalgonda District in 1990 - 91.

Cost of spare parts Rs. 12,85,937.00

Cost of establishment Rs. 16,55,472.00

Cost of mobile team Rs. 59,676.00

Crucial balance expense Rs. 3,41,148.00

Total Rs. 33,42,233.00

'or' Rs. 33.42 lakhs for 4,224 H.P.

'or' Rs. 800/- H.P. O/M.

2.5 PROCEDURE ADOPTED FOR SELECTION OF SAMPLE MANDAL, VILLAGES SCHEMES.

2.5 The sample mandal in the Nalgonda district was chosen with the following criteria.

1. The Mandal is representative of the district RWS schemes and problems.
2. It included NAP schemes a prominent feature in th district.
3. It included the three main type of schemes in vegue today i.e., PWS., MPWS, H.P.

The Nalgonda mandal was selected as the sample mandal.

The mandal has :-

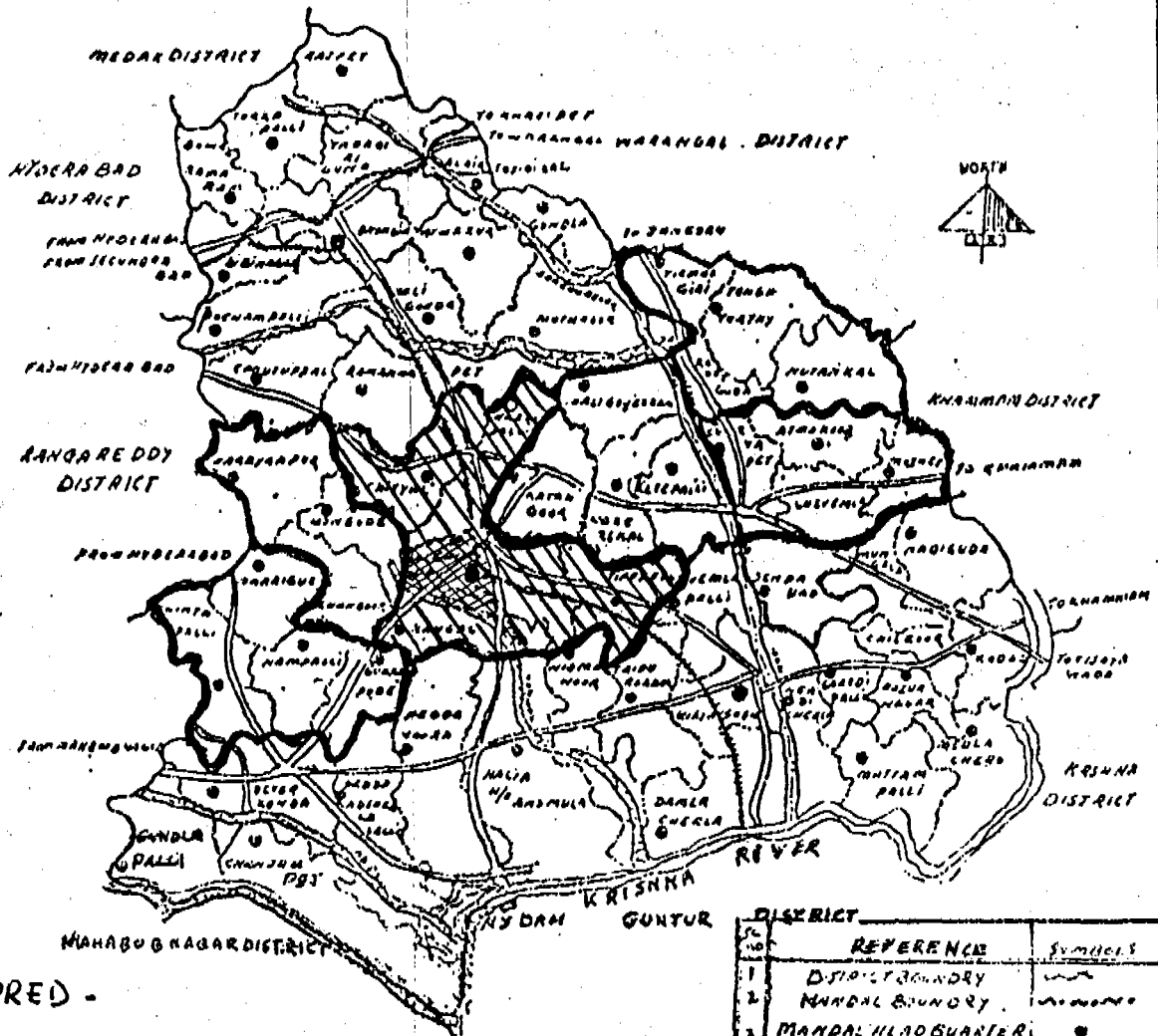
Gram Panchayats	21	
Hamlets	20	
PWS Scheme	5	(Total)
MPWS Schemes	2	
NAP Schemes	3	
Bore Wells with H.P.	250	

The team decided to study all the PWS, MPWS, schemes and selected additional 4 villages for studying the maintenance problems of H.P. covering 77 bore wells. The following table shows this is comparison with the figures in the district/ division.


SAMPLE VILLAGES - SCHEMES STUDIES


Sl. no	Type of Scheme	Total No. Studied	Total in sample Mandal	% studied	Total in divi- sion	% stu- died	Total in distri ct.	% stu- died
1.	PWS	5	5	100%	61	8.2%	115	4.4%
2.	NAP	3	3	100%	9	33.3%	12	25%
3.	MPWS	2	2	100%	81	2.47%	175	1.14%
4.	H.P.	77	250	30.8%	4744	1.62%	9950	0.77%

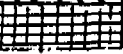
MAP OF NALGONDA DISTRICT









PRED -

 DIVISION BOUNTRY

 SUBDIVISION - NALGONDA

 MANDAL NALGONDA.

Sl. No.	REFERENCE	Symbol
1	DISTRICT BOUNDARY	
2	MANDAL BOUNDARY	
3	MANDAL HEADQUARTER	
4	ROADS	
5	REVER	
6	RAILWAY LINE	

CHAPTER -3

3.1 Data on Mandal

3.1.1 Geographic. The Nalgonda Mandal lies towards the South West of the Nalgonda District. In the Centre is the Nalgonda Municipality and the 27 Gram Panchayats around from the Nalgonda Mandal. It is 18 K.M. from Kattangoor the nearest Point on the National Highway No.9. It has:-

Total area	322.73	SQ.	K.M.
Total population	97620		
S.C.	15286	16%	
S.T.	595	0.7%	
No. of Gram panchayats	22		
No. of Hamlets	20		

There are no notified panchayats in this mandal.

3.2.

Economy of the Mandal

Sources of Income for the Mandal.

1. Grant from State Government
Rs 5/- Per head (Population).
2. Mineral cess:
3. Scenarage:
4. Local & Cess:
5. Stam duty.
6. Entertainment tax.

(Item, 2, 3, 4, 5 are shared between the Mandal and Panchayat in the ratio 60:40.

Besides this the mandal also gets grant from the Government (Z.P.P.) towards.

1. Salaries of Staff.
2. Slaries of teachers.
3. Towards Social Welfare.
4. For Minor Irrigation.
5. For Roads & Buildings.
6. For R.W.S.
7. For N.R.S.P. (National Rural Employment Programme

(Contd..2...)

8. Telugu Grameena Kranti Padakam.
9. Vimukti Programme.
10. Water Supply and Sanitation.

The total Budget for the Mandal in 1989-90 is as follows:-

Old Balance.	10,11,634.61
Receipts	40,25,021.76
Total	50,36,656.37
Expense	42,96,223.80
Closing Balance.	7,40,432.57

The income and expenditure G.Ps. in Nalgonda Mandal is shown below:-

STATEMENT-I RECEIPTS AND EXPENDITURE OF GRAMA PANCHAYATS IN NALGONDA MANDAL.

Sl. No.	Name of the Gram Panchayati.	Receipts for last (3) years.			Expenditure on Last (3) Years.			REMARKS
		1988-89.	1989-90	1990-91	1988-89.	1989-90	1990-91	
1.	Namalaguda	13089-00	10031-00	21594-00	3844-00	5271-00	625-00	
2.	M.Domalapalli	3806-00	5609-00	4803-00	3112-00	4980-00	4715-00	
3.	Cherlapalli	18215-00	14263-00	14688-00	17019-00	13907-00	13800-00	
4.	Musham Palli	4240-00	6900-00	7420-00	3940-00	6200-00	6411-00	
5.	Narsangh Bhatla	13149-00	8708-00	15043-00	2826-00	6803-00	5590-00	
6.	Donakal	2514-00	2534-00	3342-00	2200-00	2120-00	2960-00	
7.	Gundlapalli	4973-00	5999-00	7269-00	1510-00	3171-00	13257-00	
8.	K.Kondaram	2576-00	2382-00	3628-00	2400-00	2100-00	3149-00	
9.	Appaji Pet	8420-00	12440-00	24950-00	6912-00	7034-00	8599-00	
10.	Kanchempalli	6239-00	4418-00	5055-00	5620-00	4400-00	5920-00	
11.	Buddaram	2291-00	2348-00	3626-00	2100-00	2040-00	3616-00	
12.	Anantharam	3900-00	4530-00	2578-00	3200-00	4500-00	2100-00	
13.	Gandamvariguda	29212-70	43287-65	38236-55	39154-75	54297-00	27996-00	
14.	Sheshammaguda	24076-00	6993-00	8907-00	7840-00	29736-00	3710-00	
15.	Chanderopalli	3677-00	2261-00	3274-00	3196-00	6244-00	3366-00	
16.	Dandampalli	2580-00	2118-00	4220-00	2490-00	2090-00	3900-00	
17.	Arjala Bavi							
18.	Maraiguda	20960-00	16568-00	21588-00	17027-00	15169-00	14630-00	
19.	Annaparthi	9436-00	4798-00	6941-00	7804-00	3391-00	9343-00	
20.	G.K.Annaram	7820-00	7607-00	9894-00	6344-00	2603-00	9651-00	
21.	Annareddy Guda	3847-00	1137-00	581-00	1805-00	351-00	996-00	
22.	Volagapalli	22792-00	18984-00	1744-00	18882-00	11094-00	1500-00	

3.3 PRED SET UP IN THE
NALGONDA MANDAL.

3.3.1 There are 6 sub divisions in the Nalgonda division of the Nalgonda District. The Executive Engineer Panchayati Raj Engineering Department is responsible for the Division. There are 6 Deputy Executive Engineers Incharge of each of the 6 Sub-Divisions.

They are:

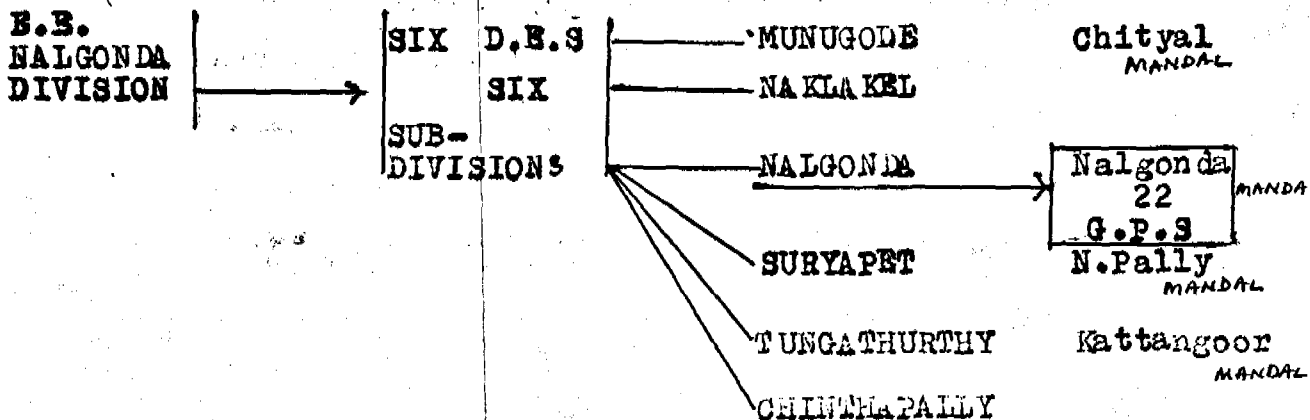
- | | | | |
|----|--------------|--------------|-------------|
| 1. | Nalgonda | Sub division | (5 Mandals) |
| 2. | Munugode | Sub division | (3 Mandals) |
| 3. | Hakerkel | Sub division | (4 Mandals) |
| 4. | Suryapet | Sub division | (5 Mandals) |
| 5. | Tungathurthy | " | (4 Mandals) |
| 6. | Chinthapally | " | (4 Mandals) |

Total 25 Mandals.

3.3.2 Nalgonda Mandal falls in the Nalgonda Sub-Division. The Nalgonda Sub-Division consists of the following 4 Mandals.

- | | | |
|----|-------------|--------|
| 1. | Nalgonda | Mandal |
| 2. | Chityal | Mandal |
| 3. | Marketpally | Mandal |
| 4. | Kathargoor | Mandal |

3.3.3 An Assistant Engineer takes care of the works in each of these mandals R.W.S. is one of the works which has to look after.



The PWS & MPWS Schemes serve the population of the Main Villages only, the hamlets depend on spot sources for their drinking water supply. All the PWS Schemes except mariguda and Narsing batla have house connections and Public Stand posts. Narsing batla and marriguda have only public stand posts.

3.4 The total capital costs invested in the Mandal on 5 PWS schemes and 2 MPWS schemes amount to Rs. 20.34 lakh

Operation maintainance a) Hand Pumps and bore wells, and salaries to operators. On an average the Department spends Rs. 800/- on a hand pump per year For 250 H.P. in Nalgonda Mandal o/m expense is = 2.0 lakhs.

For o/m of 2 NAP + 3 Other PWS schemes + 2 MPWS schemes the department spends Rs. 3.03 lakhs. Total O/m cost in Nalgonda Mandal = Rs 5.03 lakhs.

3.5 Procedure adopted for selection of sample villages & Schemes.

The Mandal has only 5 PWS and 2 MPWS. Schemes. The team opted to study all there schemes and another 4 villags lying at the border of theMandal for studying the maintenance of Bore Wells.

Sl. No.	Type Scheme.	Total No. Studied.	Total in Sample Madel.	% Studied.
1.	P.W.S.	5	5	100%
2.	M.P.W.S.	2	2	100%
3.	Hand Pumps	66	250	26.4%

There is a mobile Van for the Division, which carries out major maintenance works. This team caters to the Nalgonda Sub-Division and the Nalgonda Mandal and its Villages.

No external Labs are at present operating in the division for Water Quality monitoring.

The maintenance of 3 N.A.P. Schemes in the Mandal is the responsibility of the D.E. two schemes are directly operated by P.R.E.D. Operators and another one is being operated by a Local operator.

3.4. DATA on the Number/ Type and levels of Water Supply Services in the Mandal.

3.4. There are three Types of Water supply Services in the Mandal i.e., P.W.S., M.P.W.S. and Spot Sources. The following table shows the W.S. service available village wise.

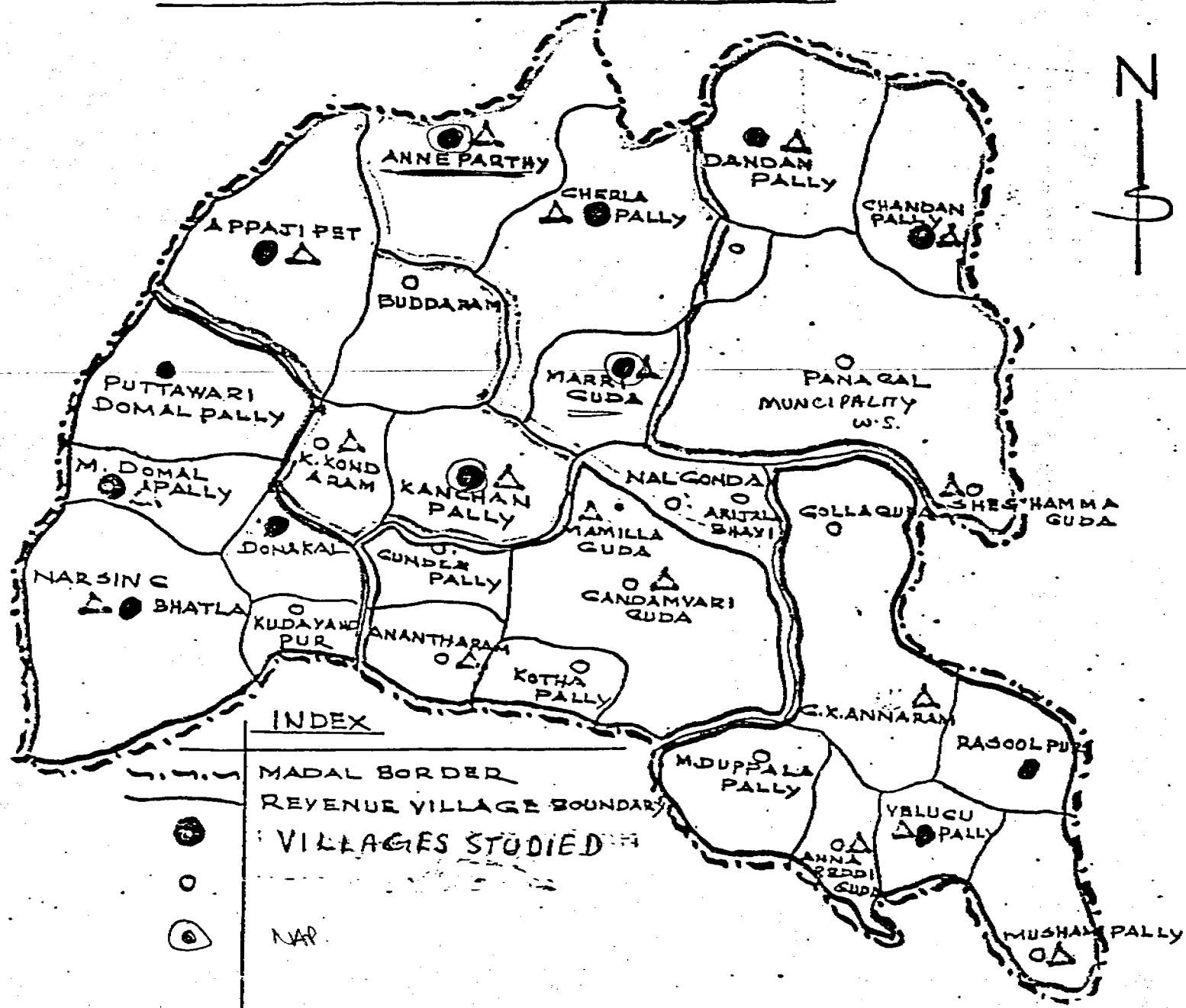
(Contd.. 5)

R.W.S. IN NALGONDA MANDAL

Sl. No.	Name of G.P.	P.W.S. completed.	M.P.W.S.	Hand Pumps.
1.	Manilla Guda	--	--	107
2.	M.Domalapally	--	--	14
3.	Chulapalli	P.W.S.	--	17
4.	Mushan Pally	--	--	9
5.	Mansaiang Batta	P.W.S.	--	17
6.	Anakal	--	M.P.W.S.	6
7.	Gandlapalli	--	--	7
8.	K.Kondalam	--	--	8
9.	Appoji Pet	--	--	19
10.	Kanchampalli	P.W.S. (NRP)	--	12
11.	Buddaram	--	--	10
12.	Anantharam	--	--	5
13.	Gandanvariguda	--	--	8
14.	Sheshammaguda	--	--	10
15.	Chandeneppally	--	--	9
16.	Dandery Pally	--	M.P.W.S.	9
17.	Anjali Bhasti	--	--	10
18.	Massiguda	P.W.S.	--	12
19.	Ampantly	P.W.S.	--	12
20.	G.Kannaram	--	--	6
21.	Annareddy Guda	--	--	15
22.	Velugupally	--	--	24
Total:		5	2	250

(Contd.. 7)

MAP OF NALGONDA SHOWING NOMINATIONS RECEIVING CENTRES



CHAVI

CHAPTER IV

O/M ANGLES OF PERCEPTION

4.1 Definition of Operation & Maintenance

After Water Supply Scheme is constructed it has to be operated and maintained. Operation involves the action of an Operator who operates the system involving:-

- (1) collecting the required quantity of Raw Water/day - by Operation of Pumps, Valves, etc.,.
- (2) Purifying the Water to the required quality by filtration and other processes.
- (3) Pumping the Water to a service reservoir (CHSR-GLSR) for distribution.
- (4) Operating the distribution system (Opening and Closing of Valves) so that the user get the required quantity of Water.
- (5) Testing the quality water at the user end.

Maintenance: This collection, purification, storage and distribution involve the use of pipes, valves, tanks, filters and pumps and a distribution system handled by users. These are liable to go out of order.

Preventive Maintenance: Consists of Precautions taken with foresight, so that the tendency of the Mechanism to go out of order is prevented by timely action.

Corrective Maintenance: In spite of all precautions the mechanism may suffer sudden break-downs which calls for immediate repairs. Carrying out of these repairs and putting the system back into operation is corrective maintenance.

4.2 Areas Covered Under Operation & Maintenance

The Water Supply as system is planned to give;

- | | | |
|---|----|-------------|
| (1) A definite quantity of Water | .. | Quantity |
| (2) Of a definite quality | .. | Quality |
| (3) With a certain cost | .. | Efficiency |
| (4) To a definite no. of People | .. | Coverage |
| (5) At a reasonable distance from their habitations | .. | Convenience |
| (6) During definite hours/day | .. | Regularity |
| (7) Without causing Health Hazards | .. | Sanitation |

The Schemes are planned keeping in mind these criteria, but at operation maintenance stage, performance fall short of the planned design. Hence the constant effort to maintain operation as close as possible to the plan, which should ultimately result in health impact and other benefits.

An important factor in the operation maintenance of R.W.S. is the Community. A sense of ownership in the Community can enhance level of utilisation, coverage, and solve many maintenance problems like wastage of water, brakages cost sharing etc.

The sense of Ownership of the community need to be sustained and supported by education and organisation and should result in cost sharing, yealding finances needed for Operation Maintenance. This line of thinking makes R.W.S. and its maintenance not mere Technical (Engineering) Function, but as support to the community which is searching for better "quality of life."

4.3 Concept of Integrated Approach

The above concept of R.W.S. and its maintenance brings in many more aspects connected with the "quality of life" that need to be promoted in the Community together with water supply. Some of the aspects are;

- (1) Health education
- (2) Community Organisation
- (3) Promoting Womens role as the Primary users of Water
- (4) Training in managerial and other Technical Skills for Operation & Maintenance
- (5) Sanitation Promotion.

This points to a multi disciplinary approach in Operation & Maintenance of RWS and it should be an integrated approach suitable to the community. All the agencies involved need to be co-ordinated and monitored.

CHAPTER 5

MANAGEMENT & ADMINISTRATION OF GRAM PANCHAYATH

5.1 Political Organisation from Gram Panchayat to District:

The Zilla Praja Parishad Chairman is the elected representative of the people in the district. The district is divided into several mandals each with a elected representative the Mandal President. The Mandal is divided into Gram Panchayats with elected representative the Sarpanch.

ZILLA PARISHAD CHAIRMAN	-	MANDAL PRAJA PARISHADS PRESIDENTS	-	GRAM PANCHAYATS SARPANCHS	-	GRAM SABHA
----------------------------	---	---	---	---------------------------------	---	---------------

Powers of the Gram Panchayath

The Andhra Pradesh Gram Panchayat Act 1964 gives several powers to Gram Panchayat. The relevant ones are listed below;

1. Maintenance of Roads - lighting cleanliness
2. Sanitation - in a village
3. Sinking and repairs of wells, water tanks, ponds, water works, protected water supply arrangements.
4. Power to levy tax on various heads
5. Civil and Criminal jurisdiction(Nyaya Panchayat)

DISTRICT

5.2 CIVIL ADMINISTRATION
SET UP

POLITICAL
~~MANZAL~~
HIERARCHY

District Collector
↓
Mandal Development Officer
↓
Village Development Officer
↓
(Staff at Village Level)

Zilla Parishad
Chairman
↓
Mandal Praja
Parishad President
↓
Gram Panchayat
President
↓
Staff at village
level

The civil administration carries out developmental activities in the village, mandals and districts. The political hierarchy suggests policies, priorities for the development activities. At the Gram Panchayat level the elected representative is also the person who carries out development activities, (administration of JRY funds Gram Panchayat funds - (etc.)) The village development officer's post is often vacant (as in Nalgonda mandal) and his functions need to be more clearly defined. Today JRY funds are held in joint account of VDO and the Sarpanch. There is a wide area where the village development officer and Sarpanch can co-ordinate the functions of village level workers such as teachers, health workers, Anganwadi workers involved in social development activities.

ACTIVITIES - Activities at the Village Level:

1. Health-multipurpose health workers
2. Education - formal - village school/informal Adult Education
3. Woman and Child Welfare - the ICDS - Anganwadi Worker.
4. Village development - VDO
5. Activities of SC Corporation
6. Activities of Tribal Welfare
7. TRYCEM - Training for Rural Development
8. Small Scale Industries - Banks - Loans - Finance
9. Co-operative societies
10. Agriculture marketing societies
11. Veterinary services - village level
12. Public distribution system - fair price shop
13. Tribal nutrition programme
14. Housing for weaker Sections
15. Peoples organisations like
 - Mahila Mandal
 - Youth Clubs
 - Arts/Sports Clubs
16. Non-Government Organisations.

This possibility of co-ordination should be further explored and if successfully done can yield good results.

5.3 Revenue of Gram Panchayat

There are many sources of revenue for the Gram Panchayat some are mentioned below:

Sources of Income of Gram Panchayat

1. Re.l Crant from :tate Government

2. Mineral Cess
3. Scenarage
4. Local Cess
5. Stamp Duty
6. Entertainment Tax
7. Local Market .. Weekly
8. Auctioning of Fish - Village tanks
9. House Tax
10. Street Light Tax
11. From Transferred Animals
12. Cattle Pond (Stray Animals)
13. Land Tax (Minor Irrigation)
14. Professional Tax
15. JAY Funds

These and other possible sources exist, but Gram Panchayats usually do not succeed in collecting from all these sources. Many Gram Panchayats do not collect the easiest sources like the house tax or land tax. Thus at present the Panchayats have no mentionable income to administer. The grants from the Government are cut at source to pay for maintenance of Water Supply, Electricity charges, etc.,.

5.4 The demand and collection of House Taxes in the 7 PWS - MP.S villages is given below;

Statement-II - Demand and collection for the villages covered by A.S./M.P.W.S Schemes, Nalgonda Mandal

Sl. No.	Name of the Gram Panchayat	Demand						Collection					
		House Tax			Water Tax			House Tax			Water Tax		
		1988-89	1989-90	1990-91	88-89	89-90	90-91	88-89	89-90	90-91	88-89	89-90	90-91
1.	Marriguda	2767.00	2767.00	2767.00	-	-	-	1040.00	1226.00	2767.00	-	-	-
2.	Cherlapalli	10338.00	10338.00	10338.00	-	-	-	945.00	1688.00	5613.00	-	-	-
3.	Kanchanpalli	2320.00	2320.00	2320.00	-	-	-	531.00	491.00	1936.00	-	-	-
4.	Anneparthi	2045.00	2045.00	2045.00	-	-	-	430.00	473.00	931.00	-	-	-
5.	Narsingh Bhatta	5178.00	5178.00	5178.00	-	-	-	1001.00	2128.00	1531.00	-	-	-
6.	Donakal	681.00	682.00	682.00	-	-	-	216.00	440.00	148.00	-	-	-
7.	Dandempalli	1381.00	1381.00	1380.00	-	-	-	341.00	278.00	1380.00	-	-	-

5.5 The Gram Panchayat also lacks the administrative capacity, with no one to collect revenue, keep proper accounts, conduct meetings implement resolutions, etc.,.

All these problems are also reflected in the R.W.S. system. The precious revenue of Gram Panchayat from RWS - house connections is lost due to non-collection, non-legalising of illegal connections - not able to declare proper accounts to public etc. In this state of affairs the Gram Panchayat is unable to carry on the Operation & Maintenance of RWS ~~xxxxx~~ entrusted to it and it often falls into low levels of service, low coverage,.

The ~~the~~ ~~is~~ ~~not~~ ~~set~~ ~~up~~ ~~of~~

The Gram Panchayats are not in a position to pay the electrical charges for ~~xxx~~ street lighting or for pumping water for RWS.

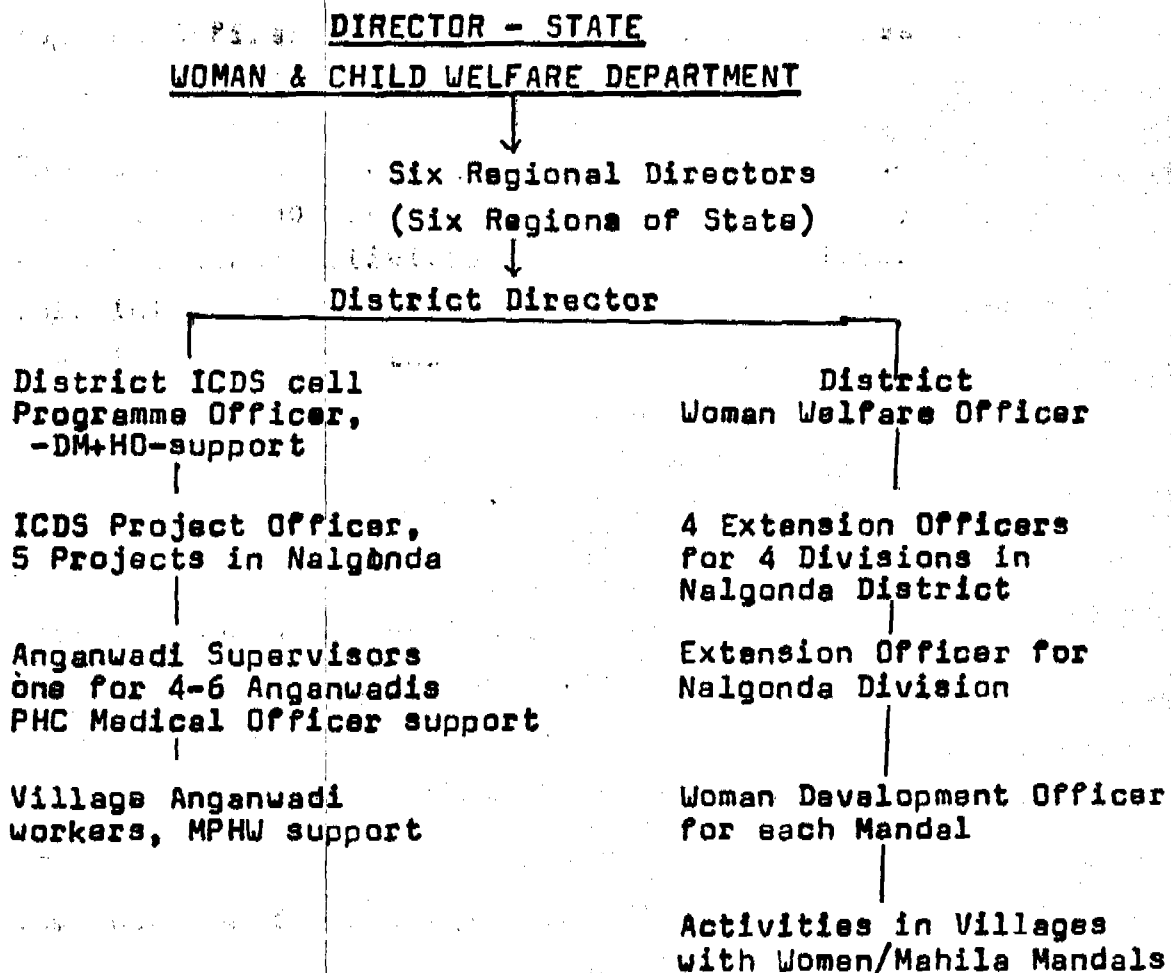
CHAPTER - 6.

MANAGEMENT & ADMINISTRATION OF WOMAN WELFARE

6.1.

The aim of the Woman and Child Welfare Department is to cater to the healthy development of the Woman who is primarily responsible for the health of the child. One of the ways achieving this is to increase the earning capacity of the Woman. She should participate in the economic development activities. This She may not be able to do alone so a collective effort through Mahila Mandals or other organisations. The Woman and Child Welfare Department supports/facilitates these activities.

The hierarchical set up of the Woman Welfare Department is given below.



It does not seem easy to initiate women to participate in income generation activities at the village level. In fact few Mahila Mandals are active in this respect and the woman development Officer at the Mandal/Village level has few resources at her command. This does not mean opportunities do not exist, but this requires much more dynamic and imaginative approach.

6.2.: FORA AT THE VILLAGE LEVEL

At the Village level the Fora is the Mahila Mandali which the Woman Development Officer is to constitute. She is supported by the extension District Officers, in providing training to suitable candidates - in arranging sale of materials produced in supporting women in need etc.

The Woman Development Officer reports to the Mandal Development Officer who integrates her activities into the total Mandal Development Plan/activities.

In practice the Woman Development Officer's duties are not well defined and her activities are poorly integrated into the other activities at the village level. Perhaps this integration could be better facilitated if understanding exists at the District level, between the various agencies?

6.3.:

The Woman and Child Welfare Department has a centre for training women in certain trades like garment making, cooking, plastic wire works etc. We have not been able to understand the working of these from close quarters.

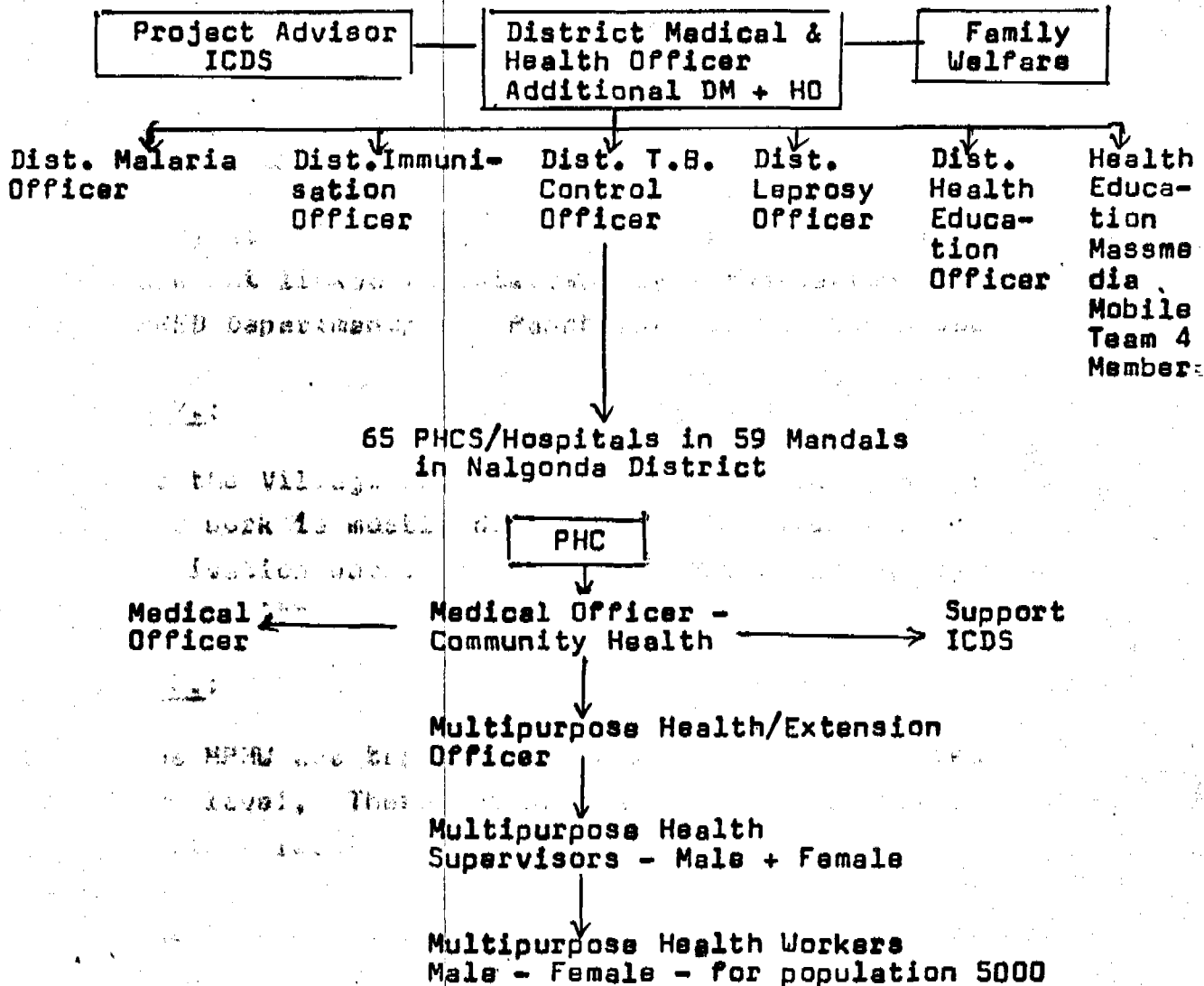
6.4.:

The Department has little financial resources at its command. It rarely finances Women's enterprises at

village level - in exceptional cases loans are arranged through banks. The Woman Development worker at Mandal/Village level has no financial responsibilities, only advisory responsibilities.

6.5.:

HEALTH DEPARTMENT
THE HEALTH DEPARTMENT HIERARCHY



6.6.:

At the Village Level the multipurpose Health Workers (1 for 5000 population) carry out all the activities of the Department:-

Family Planning
Immunisation
Health Education
Leprosy Control
Malaria Control
T.B. Control

The mass media publicity team supports this work through their programmes in the Villages (1 team for 1001 villages in Nalgonda District).

The ICDS work is formally supported by the medical hierarchy at all levels. But the medical and health activities are not linked to water supply - sanitation activities of PRED Department/Gram Panchayat, or the Woman VDO's work.

6.7.:

At the Village level there are no training programmes - the work is mostly done through individual case by case motivation work. It does not lead to community action for health.

6.8.:

The MPHW are trained and their work is monitored at the PHC level. There are no budget provision for conducting village level programmes.

The Nalgonda District has also a "Domestic de-fluoridation" unit - headed by a unit Officer and 5 Health Assistants. At present they are working on 31 Villages around Marriguda Mandal. Prior to this in 1978 the IPM carried out a village to village - source to source drinking water test to determine the flouride content. A water testing lab was established at DM & HO Office, Nalgonda with funds from the Zilla Praja Parishad Office. In 1987 the Water

Analyst was withdrawn and at present the lab and equipments are lying idle. The latest records of water quality analysis available from DM + HO Office was of the year 1978 for Nalgonda Mandal.

CHAPTER - 7.

MANAGEMENT & ADMINISTRATION OF RWS AT MANDAL LEVEL

7.1.: PRED SET UP

The Mandal is part of a subdivision in the PRED set up. At the Sub-Division there is a Deputy Executive Engineer assisted by Assistant Engineers for each Mandal.

At the Mandal level the Deputy Executive Engineer is responsible for D/M of PWS/MPWS Schemes.

In Planning, the problem villages are first located, listed out and then suitable RWS Programmes are planned for them with the active participation of the political hierarchy.

At the selection/planning stages there is a great participation and pressures from all political quarters. The G.P. passes a resolution to maintain the scheme as demanded by the department. The maintenance responsibility is often not understood, but the important thing is to get the scheme for the village. This participation may not sink into the grass root level where the majority of village population may not be aware of all these developments. This enthusiasm slowly dies down once the construction starts, when the only interested parties are reduced to the PRED Department and the Contractor. At the final stage of the construction there is a hurry from a V.I.P. to inaugurate the scheme - thus the participation is not by community but by the political/official hierarchy. At maintenance stage the community may be blamed for not participating.

7.2.:

Three types schemes are in vogue. The Hand Pump is the source provided to all families.

1. H.P. for 250 people. Where scarcity/flouride or other problems make safe drinking water difficult to obtain PWS/MPWS Schemes are planned and executed. Once the PWS/MPWS Scheme is inaugurated it is said to be handed over to the Gram Panchayat. In Nalgonda Mandal no handing over note is made. Often the Scheme has not come out of teething problems. (eg. Narsing batla). The Panchayat often do not have the technical, financial, organisational, managerial capacity to maintain RWS Scheme - Due to these and many other reasons the scheme starts functioning below expected levels and deteriorates further as time goes on.

The Bore wells are never handed over. The PRED has taken the responsibility of maintaining them.

The Gram Panchayat (People and sarpach) are often delighted to take over the scheme without understanding the responsibilities, and financial burdens involved. But the department which fully understands all the complexities involved should assess the capability of the Gram Panchayat before handing over ?

The Gram Panchayats is not given any formal/written instruction regarding design, flow diagram, capacity, Number of public stand posts or house connections possible, tariff rates, hours of pumping and distribution and the operators training. Once the handing over is done the department attends to new works and little or no support given to Gram Panchayat to run the schemes.

7.3.: O/M Practices

There are no established O/M practices. Each operator develops his own style of functioning. The main duty is to fill the tank, working the motor whenever power is available. He turns the outlet valves at the customary time till the tank runs dry which could be as short as

1/2 hour (with too many house connections) - and as long as 2 hours with only public stand posts. This is the case with both with the Gram Panchayat managed schemes and department managed schemes.

7.4.:

HOUSE CONNECTIONS

Very soon after taking over the Scheme the Gram Panchayat is under financial and community pressure to give house connections. There are no written, agreed laws, regulations, bye-laws for water supply, tariff and methods of collecting water. After a few legal connections, illegal connections and unhealthy water collecting practices develop. The public stand posts go dry. The Gram Panchayat Sarpanch is practically helpless - or sees no harm. General dissatisfaction sets in and people talk of another tank, motor, bore well etc.

The tariffing varies from Rs.10/- a month to Rs.5/- the down payments varies from Rs.500/- to Rs.100/- (see tabulation of Schemes studied).

Tariff:- (Record of collection not available).

The lack of perception of clear ownership by Panchayat, and absence of rules, regulations - and sanctioning procedures, the lack of ability of Gram Panchayat to take corrective action are the major factors contributing to this state of affairs.

7.5.:

O/M STAFFING

The Department has hand pump mechanics at the Mandal level and mobile team at the Divisional level. The Nalgonda Divisions has 56 Mechanics/Helpers and 25 Mandals. Each Mandal has 2 - 3 Mechanics/Helpers. The Nalgonda Mandal has one Mechanic and two Helpers, for 250 H.Ps in 21 Gram Panchayats and 20 Hamlets. That is 83.3 H.P. per Mechanic in 7 Gram Panchayats. On an average the Mechanic does

tax + tariff
house connections
margin lost on capital cost
cut from prof connections
also from payment
house from connections

legislation
- made of payments
- how much
- how used!

2 repair per Pump per year. The work of the 3 H.P. mechanics for the year 1990-91:-

Sl. No.	Name of H.P. Mechanic	No. of Villages entrusted	No. of H.P. entrusted	Total No. of repairs done in 1 year	Repair/ B.W./ year	No. of repair month
1.	Mr. Lingaiah, Mechanic	7	91	183	2.0	15.25
2.	Mr. Shauddin, Helper	9	89	224	2.51	18.66
3.	Mr. Shanker, Helper	6	59	NA	NA	NA

The Mandal Office Recorded 149 Hand Pumps O/M complaints from 18.7.90 to 3.7.91.

The mobile team operates in the Division. It distributes the spare parts received and also carries out major repairs like fishing and flushing. They have carried out 126 repairs in 1990-91 in the 25 Mandals of the Division. Out of these 17 Works were done in Nalgonda Mandal.

There are two PWS operators under Department pay and other 5 PWS/MPWS operators receive pay from their Gram Panchayat as shown in the Village tabulations.

The H.P. of mobile team mechanics have received formal training. All the others, the helpers, and PWS/MPWS operators have had no formal training. They are trained on the job and have sound experience to back them. The H.P. mechanics report to the Mandal Development Officer and the D.E's Office. The mobile team is under direct control

of the Division. The PWS operators report to Sarpanch or to D.E. if appointed by him.

7.6.:

The Department receives grand (Rs.1 grand to Gram Panchayat reduced at source) by the State Government. It also received other grants termed "Crucial balance". There is a special grant for maintenance of NAP Schemes. The expenses are towards maintenance of H.P. (Salary and sapres), the repairs to PWS/MPWS Schemes, Motor windings, Salary of 2 NAP Scheme operators - as shown below.

The Mandal Spend in O/M RWS in 1990-91:-

	<u>Rs.in lakh</u>
On O/M H.P. Rs.800 x 250 = 2.00
On salary for NAP Schemes: ..	1200 x 2 x 12 = 2.88
(Kancharpally No PRED salary)	
On Motor Bourings: ..	Rs.3000 x 5 = 0.15
(Cherlapally + Donakal Motors safe)	
	- - - - -
	Total: Rs. 5.03 lakh
	- - - - -

The Receipts for Rs.1 grant to G.P.

Rs. 23,000/-

8.0 TECHNICAL ASSESSMENT

8.1 In this Mandal 4 types of services are provided for water supply.

- 1) Through Borewell handpumps exclusively
- 2) Through Mini PWS Schemes with battery of taps to the GLSRS provided at one or more places depending on the distance to collect the water by the home holds.
- 3) Through PWS Schemes with public stand posts, provided although out the village at places convenient to the public and
- 4) By both piped water supply schemes supplemented by borewell handpumps.

In Nalgonda Mandal there are 22 gram panchayats with 20 more hamlet, villages with them. Out of the 42 villages 5 villages are covered by PWS Schemes to 2 villages with MPWS Schemes. All these villages including the above 7 villages having protected water supply schemes, are provided with borewell hand pumps to cater to the needs of the public both for human consumption as well as for the cattle as to traditional well sources are dried up with depletion of water table and there are no village tanks for the cattle. The Irrigation tanks wherever available are rainfed and seasonal.

The capital cost ranges as follows:-

- 1) For borewell handpumps -- Rs. 12000/- each which works to Rs. 60/- per head per capital.
- 2) For MPWS Schemes Rs. 1.00 lakh -- 2.00 lakhs which works to Rs.150 per head per capital.
- 3) Rs.3.00 to 5.00 lakhs to the PWS Scheme so far executed in this Mandal - which works to Rs.200/- per head per capita.

8.2 As far as handpumps are concerned except in break down periods for repairs the performance is also expected since maintenance is done through at exhorbitent cost by the Government.

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The performance of piped water supply scheme is not to the scale or planned performance due to non-adequate of the source and non-affordable cost to the Gram Panchayat, to maintain a full time operator and other contingent, staff and to purchase necessary chemicals and attend on routine repairs due to its poor income and therefore the performance is much below the average.

8.3 The traditional sources since dried up with tapping of ground water indiscriminable in and around the villages, the drinking water needs both for the human and cattle are met by the hand pump, spot sources and piped water supply schemes. The maintenance and operation of these sources much depends on the funds position which is lacking for the Gram Panchayat of Nalgonda Mandal and therefore user satisfaction is not there as to its quantity, regularity and convenience.

8.4 In the Mandal there are 250 hand pump bore wells. For the population of 35162 it is working out on average, one pump is provided to the population of 140 (or say 28 families) as against the standard scale of one number to 200 to 250 population.

Through the number of bore well hand pumps fell in major repairs are negligible during the last year, it is observed that some of the hand pumps have become seasonal due to depletion of water table, resulting in heavy pressure on deep bores and thereby heavy tear and wear and frequent replacement of spare parts.

The cost of the maintenance, as calculated elsewhere, is working out to Rs.800/- per pump per year which includes cost of spare parts and cost of overheads for service personal and also the cost of mobility for mobile team which undertakes major repairs. The Government is providing as on now, Rs.80/- per H.P. based on the budgetary provisions, another Rs.180/- per hand pump by recovery from the Gram Panchayat while releasing Rs.1/- grant. The balance expenditure is met from the other relief works grants.

Contd....

It is observed, some of the Gram Panchayats are also expending from their funds for spare parts in order to restore the functioning of hand pumps whenever the departmental supply is inadequate or rather for not forthcoming timely. The amounts spent by the Gram Panchayats are not taken into account while assessing the running cost of Rs.800/- per hand pump for maintenance

In the Mandal, these are 2 pump mechanics and 2 helpers attending on the H.P. maintenance. In addition, there is one mobile van with crew for each of the Division to attend on major repairs of the hand pumps.

This Mandal has got 5 PWS Schemes and 2 MPWS Schemes. the sources for all this schemes are borewells, tapping ground water. According to norms, 40 lpcd is supposed to the public in 8 hours and for which 16 hours pumping is contemplated. In practice, the public is supplied on average 2 hours though the pumping is for 16 hours on average. The reason is observed to be that barring one scheme at Marriguda and 2 MPWS Schemes, rest of the 4 PWS Schemes have entertained ~~xxxx~~ legal and illegal house connections which draws bulk of the supply resulting in denial of supply to the public depend on public stand posts. In fact, all the schemes are designed for delivery of water through public stand posts only. The reason put forth for allowing private house connection is to attain sustainability to maintain the scheme as it enables to collect watertax from them. In two PWS schemes, one at Anarparthy and the other at Charlapalli there are illegal house connections taken by the house owners themselves, indulging in making holes to the pumping and supply mains. It is also ascertained that in this two villages even tap connections contributions and monthly tax is also not paid by most of the house holders. There is much public displeasure for this high handed and illegal action of the house holders for indulging in house connection. The Sarpanch is helpless in their regard either to prevent or to remove the house

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connections illegally taken, for fear of courting public this displeasure and equally so the opposition ~~gr~~ groups. So, the NAP Schemes since run by the departments the Gram Panchayats or the Sarpanch is spared of accountability and therefore the public in indulging in damaging the system for their selfish ends.

All the non notified Panchayatis are since minor Panchayats the Government have exempted the payment of electrical charges of PWS Schemes and therefore, the Gram Panchayat is not looking into the cost of the energy to plan the functioning of the schemes effectively with minimum hours of pumping, which is possible only when private connections are not allowed, as there is chance of restricting pumping hours in view of providing hand pumps in required number and the water therefor are ~~xxx~~ equally good.

The cost of the energy charges for each of the scheme is given in appendix, which speaks necessity to take into account the cost of energy also while calculating annual cost of ~~xxxxxx~~ maintenance of the scheme and then only it would be known about sustainability in providing PWS Schemes wherever the hand pumps with portability of water is available.

For PWS Schemes the source is selected and water is tested as to its portability, before the scheme is taken up execution. But, as verified in general, the testing of water supplied is not periodically done but once in a way whenever water born diseases are reported. The daily supply is in fact, is got to be chlorinated maintaining the minimum residue chlorine at the tap and but in practice it is not done at all, though in some schemes chlorinators were arranged. The reason is observed to be not servicing the chlorinators, wherever available and thereby fell in disrepairs and the Gram Panchayati do not have funds for chemicals.

Contd....

As observed, the public that depend on the PWS Schemes are of the opinion that the water supplied is safe water, whereas, there is neither testing of water periodically nor ~~xx~~ ensuring chlorination to the daily supply.

8.7 In Anaparthi and Charlapally, the ~~pipe~~ pumping mains and also the distribution lines are meddled with by the house holds and taken out connections to their residences. In Anaparthi, the department had to sought for the help of the Police and got removed the private connections. But as observed, all removed connections have been restored by the house holds. This is really a dangerous attitude which should not have been permitted by the Panchayat. The house holds by taking illegal connections should indulge in lowering the levels of tap points taken by them in their compounds to draw more water and this action is causing interference in supply made through the public stand posts, the taps of which are at higher level, the house holds are also indulging in digging pits in their compounds, even below the levels of the water mains to draw more and more water. By this, the pits are caught up with stagnated water and becoming a source of pollution as there is every likelihood of sucking this water by the water mains and the water flowing through get contaminated. This type of indulgence can be prevented by enforcing law with heavy penalties by recovering the cost involved for replacing the damaged pipe also. There is no point in allowing private connections when the scheme is designed for supply through stand posts only. The public stand posts; if not located at convenient places, may either be rearranged or number increased.

8.8 Out of the 7 PWS and MPWS Schemes executed in this Mandal, two schemes, one at Anaparthi and the other at Marriguda village are maintained by the respective Panchayats whereas the other two schemes are taken by the department for maintenance. In fact individual

Contd....

schemes are to be maintained by the respective Panchayats only but in case of defunct schemes the Government in G.O. Ms.No.3/0 dated 19.6.1982 permitted the department to take over such schemes, restored and maintain them, in case, the Gram Panchayats are not in a position to maintain. In view of the above G.O. so far the above two schemes of the Mandal have been taken over by the department. By this, a feeling has been established in the minds of the public that it is the obligation of the Government to provide safe water, free of cost to the public and thereby maintenance expected of, is not done by the Panchayat. Both the Gram Panchayats and the departments are attending on simple maintenance of paying the wages of the pump operators and petty repairs requiring plugging the leakages. Even the electrical power charges are not paid, since the minor Panchayats (Non notified) are exempted of it. The operators employed by the Panchayats are paid meagre amounts ranging from Rs.100/- to 500/- a month depending on their funds position. But the department is paying about Rs.1200 and a sense of security is given to the operators. The same pump operator is attending on the valves operation also and pipe line fittings. None of them know the electrical work except on and off the switches. There is practically no check on them except the Sarpanch. There is no instance of inspection by the Department about the running of the system by the department except in special circumstances where at their services are required for restoration of the schemes.

The operators are employed by the Panchayats on part time basis on petty payments and they are local people with no Academic qualification worth to say. The operators employed by the department though they have no academic qualification have possessed experience in the department in laying the pipe lines etc. None of the operators are trained of intricacies of operation of pumps and electrical system.

Contd....

Even the supervisory staff of the department are not trained for this job of operation and thereby for any break downs, they look at the outside agencies to set right the system.

For maintenance of hand pumps there are two pump machanics and one helper and all of them are attending on repairs on hand pumps independently with territorial jurisdictions. The expenditure on their salaries and T.A. is about Rs. 6000/- a month (i.e.,) Rs. 72,000/- a year. Besides this establishment, there is a mobile team at the Divisional Head Quarter attending on major repairs of the hand pumps.

Decided to draw Rs. 72,000/- from the available funds and to pay apart costs and to

held by

8.9 The District, Consisting of 3 Divisions, is getting aid for the maintenance of Hand Pumps and it is of Rs. 34.15 lakhs for the year 1990-91. The Division-wise allocation is as follows:-

1. Nalgonda Division	-	Rs. 15.40 lakhs
2. Miryalguda Division	-	Rs. 10.40 lakhs
3. Bhuvanagiri Division	-	Rs. 8.35 lakhs

TOTAL: Rs. 34.15 lakhs

- II. For maintenance of the schemes executed under the Neitherland Association Programme on amount of Rs. 2.38 lakhs is being released.
- III. The Government permitted to spend upto 10% from the plan allocations under A.R.W.S. & M.N.P., Water Supply programmes, for repairs to the PWS Schemes including restoration of defunct schemes. Under this provision the Z.P.P. Permitted to spend upto Rs. 3000/- for ~~xxxxxxx~~ repairs to sub-mergible pumpsets and Rs. 1500/- for ejects pump repairs.
- IV. The Government permitted the Z.P.P.S. & M.P.P.S. to spend upto 20% of General Revenue on water supply. ;
- V. Besides, the Gram Panchayats are incurring expenditure from the available funds with them, for purchasing Han Pump spare parts and for repairs to pumpsets.
- VI. The Government have exempted the Minor Panchayaties from payment of cost of Electrical Power utilised for P.W.S. Schemes and therefore the electrical Board is not raising any demand on the Minor Panchayaties for payment but held by it as dues from the Government.

HAND PUMP MAINTENANCE:

As far as Nalgonda Division is concerned it has received Rs. 15.40/- lakhs during 1990-91 for maintenance of Hand pumps but as verified, the expenditure incurred is of Rs. 33.00 lakhs (ie.) in excess by Rs. 1760 lakhs than the release for this year of late incurring excess has become a regular feature.

Out of the expenditure of Rs. 33.00 lakhs, the expenditure on personnel is of Rs. 16.63 lakhs and on the spare parts Rs. 16.37 lakhs (ie.) 50% of the expenditure is on the personnel attending on the repairs, but when compared to the grant releases, the expenditure on personnel is more than the releases. The entire release, even excess over it is spend on maintenance of personnel only. There are 4744 Hand Pumps in the Division and the average expenditure on each of the Bore is working out to Rs. 696/-. This amount is excluding the expenditure done for flushing of Bores and fishing of pipes and the amounts being spend by the Gram Panchayats in case of urgency, in procuring spare parts.

For the Maintenance of Hand Pumps the Government is deducting certain amounts based on number of hand pumps from the Rs. 1/- grant-in-aid being released to the Panchayats. As far as Nalgonda Mandal is concerned an amount of Rs. 22,851, has been deducted from the Panchayats in 1990-91 while releasing Rs. 1/- grant to the Panchayats.

P.W.S. SCHEMES:

The Electrical charges for the 7 PWS and MPWS schemes, contained in this Mandal is of Rs. 2.40 lakhs in a year and this amount is not released from the Panchayats as all the panchayats are non-notified and thereby stands as a liability on the Government.

The Department is spending for repairs & replacement of pumpsets in general for all the piped water supply schemes and also for all operational maintenance wherever the schemes are maintained by the departments.

The gram panchayats and the public are just paying the salaries of the operators.

There is no expenditure on Chemicals as even the chlorination is not done in all the schemes without any exception.

REVENUE:

In some schemes Rs. 100/- as down payment for granting House connection and Rs. 5/- to 10/- monthly is collected wherever Home service connections are given by the Panchayats. For illegal connections taken by the House Holders there is neither demand nor realisation of any amount what so ever.

In Anaparty Scheme, which is maintained by the department all the House Connections are illegal and therefore the Panchayat could not demand.

8.10 For Maintenance of Hand Pumps 3 tier system is followed in this district. According to this, Mechanics attached to this Mandal work under the control of the M.D.O., but salaries are paid by the Dy. Executive Engineer of the area on a certificate issued by the M.D.O.

A Register is maintained at Mandal Office to enable the Sarpanches or any public to record the information regarding the repairs to be done for Hand Pumps. The Mechanics on the instructions of the M.D.O. attends on repairs, wherever possible or report to the Dy. Executive Engineer (I & S) for any major repairs to be attended to by the mobile team, available at Division Head Quarter.

The spare parts are supplied to each of the Mandal by the concerned Dy. Executive Engineer soon after stocks are received by him and distributed to each of this Mandal based on the number of Hand Pumps. Any extra spare parts required are procured by the Gram Panchayat with its funds. There are cases helped by the house holds of the locality by raising contributions.

There is definitely public awareness and involvements with regards to the maintenance of Hand Pumps. But, keeping the environment tide and hygiene point of view is not realised by the public. Bathing and cleaning the household cloths, public drainage system is not effective, stagnation of the spilled and used water at and around the hand pumps, it is noticed, in above 30% of the hand pumps.

For P.W.S. Schemes, the operation work under the control of the Gram Panchayat and the Mandal has no Jurisdiction about the functioning of the schemes. Even review is also not done at Mandal level.

The Schemes, after execution are handed out to the Gram Panchayat for maintenance by the department and it is the look out of the Gram Panchayat for its effective functioning. The department has not practice of reviewing the functioning and maintainance of the schemes to the given standards. Whenever breakdowns are there for want of repairs, or for extentions the department is informed for estimates and technical sanction to enable the Gram Panchayat to spend its funds in normal course.

The department is also spending from out of 10% of purposive grants for restoration of selected schemes after obtaining the sanction of the Zilla Praja Parishads. But the Mandal has no involvement in such cases.

CHAPTER - 9

ASSESSMENT OF COMMUNITY DYNAMICS IN O/M.

9.1

Concept of community participation: Every community is in a SEARCH for development and often outside agent support is available to the community. Community participation is the community's organised response to the demands of development, integrating all supports available to a coherent development programme.

The organisation of response/involvement can be done by the community itself or by the supporting agent. For true community participation:

1. The community must appreciate the agents intention.
2. The agent understands the community's stage of development.
3. Deep communications between community and agent (No Conceptual gaps-participation planning).
4. Community's grasp of physical developments (Participation in constructions)
5. Community appreciates the benefits -impact (Health education)
6. Community's ability to use and maintain the Tecnology (appropriate technology)
7. Community's is aware of costs and willing to share costs (costs sharing-finance)
8. The community is organised for internal sharing of benifits and responsibilities. (Administration and management)
9. The project becomes fully integrated into the community's programmes to further development (Better quality of life)

9.2

For the RWS schemes studied, the bottle necks to community participation were, lack of ;

1. Lack of - Communication between agent and community.
2. Lack of awarness of the physical setting of scheme.
3. Lack of Awarness of the benefits, visible-invisible.
4. Lack of awarness of the costs-capital and O/M.
5. Lack of organisation and administrative ability.
6. And certian allegedged technical defects in the constuction of the schemes.

Contd. 2...

9.3.

The survey first tries to measure:

1. The conceptional gap between planners and users and awareness about the scheme and impact.
2. Secondly degree of financial administrative, organisational, institutional managerial and technical ability the community possessed.
3. Thirdly community's opinion about possible solutions to the above problem. For this discussions and interviews were held with.

Elders of community.

Educated sections of community.

Women

Youth

Weaker sections.

Local organisations (Mahila Mandal clubs.....)

Political leaders (Z.P.Chairman, MPPP.)

Civil administrative hierarchy (collection, DDO, MDO...) implementing agency, PRED supporting agencies, Health, women and child.....)

The team studied schemes at:

S.No.	Name of the cillage	PWS	MPWS	B.W.& H.P.
1.	Marriguda	PWS	-	13
2.	Cherlapally	"	-	14
3.	Kanchanapally	"	-	12
4.	Annaparthi	"	-	11
5.	Nursing Batla	"	-	12
6.	Donakal	-	MPWS	9
7.	Dondampally	-	"	8 ⁻⁻⁻ 1
8.	Appaji Pet	-	-	18 X Excl
9.	Domalapally	-	-	14 X Stud
10.	Chandanapally	-	-	9 X for
11.	Velugupally	-	-	24 ⁻⁻⁻ 1 X 53 H.
Total		5	2	144

The results are tabulated below:

1. There is conseptional gap- the awariness about physical setting-location of source-technology used... costs.....inpact etc.

about 44.5% are aware of the physical setting of the scheme.

About 12.3% are aware of the capital costs.

About 9% are aware of O/M costs.

No one is aware of health impact.

2. Financial, Administrative, Capacity:

Financial capicity:-The income and expenditure of

2/5 GPS 1990-91.

Village	Income	Expenditure	balance
Marriguda	21588	14630	6958
Cherlapally	14688	13800	888
Kanchanapally	5055	5920	-865
Annaparthi	6941	9343	-2402
Narsing Batla	15043	5590	9453
Donakal	3342	2960	382
Dondamaply	4220	3900	320

N.B:- 1) Village paying the Electricity bills of the scheme which reach upto the Rs. 30,000 a year.

2. The income and expenge from house connections not available-with many illidal connections, the collections from geneune users is difficult.

ADMINISTRTRIVE CAPACITY:All the 7 G.P.'s do not hold regular meetings. It is usually a one man show- the sarpanch.

III COMMUNITIES OPINION ABOUT POSSIBLE SOLUTION:

1. Only 12.5% are in fa'our of Government taking charge of O/M of W.S. etc.
 2. 43.5% are in favour of G.P.
 3. 44.6% are in favour of a local body G.P. Committee etc.
- B) Regarding the local body for O/M.
- 48.2% that G.P. is the appropriate body.
 - 39.3% say that women could take up that task.
 - 32-1% say a user committee is best.
 - 12.5% say that village elders cluld be entersted with this task.

IV. Ability and willingness to pay:

21.3% are willing to pay with

66.0% are willing to pay if ws is regular with sufficient quality.

water supply ~~is~~ has a high priority in people's thinking.

9.4.

Reactions to C.P. from G.P./PRED/Women health department/G.O.A.P.

All have ^{ex}pressed positive reactions to C.P./G.P.: all G.P.s, are willing to involve more members of community in water supply. The surpanchas are willing for women participation.

Women: In 6 of the 7 village women take active part in discussions about water supply. They have a number of complaints about W.S. and some of them are also willing to participate in responsibility sharing.

WOMEN AND CHILD WELFARE DEPARTMENT.

The directors at district Nalgonda are positive about C.P./women participation, but are not able to gauge what exactly their role would be.

G.O.A.P.: The collector Nalgonda is of the opinion that an additional institution other than G.P. may not solve the problems. He says that once the financial problem is solved - the other problem will disappear, and for this he believes that the only way is to levy drinking water cess - attached to land collected by the M.R.O. The funds can be handed over to P.R.E.D. or Gram Panchayat to maintain the scheme. Voluntary collection in community will not work he says.

9.5.

ANTICIPATED BENEFITS OF C.P.

1. It will make O/M less costly
2. It will give greater coverage and impact to the scheme
3. It will give sense of ownership and reduce vandalism
4. It will promote sanitation at P.S.P.
5. It will make people (women) participate in other development activities of village.

9.6. CONSTRAINTS AND BOTTLE NECKS:

1. Alleged technical defects in W.S. scheme at the time of handing over.
2. Financial problem - no collection mechanism.
3. Community not organised to participate.
4. G.P. Institution weak - not functioning.
5. Low administrative, managerial, organisational capacity of Gram panchayat.
6. Taboos about participation of women.

9.7. POSSIBLE INSTITUTIONS FOR C.P. AT VILLAGE AND MANDAL LEVEL:

OPTION:- 1. A standing committee appointed by G.P. headed by women member of G.P.

Committee members can be P.S.P. representatives
Mahila mandali representative.

The committee to be supported by MPHW, women welfare offices, V.D.O. in conducting meetings.

OPTION:**. Strengthen the existing G.P, by supporting it to have better, administrative management, ability.

N.B. (1) Initial enthusiasm may not sustain hence an inbuilt incentive to attend meetings, communicate decisions should be explored.

(2) It would seem that at present no village institution will have the ability to mobilize finance. Hence the finance to be collected from village community members as a cess on land collected by Mandal revenue officer:

Sl. No.	Question / Opinion	Marri guda	Cherla pally	Kancha napally	Anna parthy	Nars ing batla	Dorna kal	Donda pally
1	2	3	4	5	6	7	8	9
1.	Who should manage W.S.							
	1. Govt.	NIL	12.5 %	12.5 %	12.5 %	12.5%	-	37.5%
	2. G.P.	NIL	12.5%	12.5%	62.5%	50.0%	100.0%	62.5%
	3. People.	100%	7.5%	75.0%	25.0%	37.5%	-	0.5%
2.	Institution of O/M.							
	1.G.P.+ others	NIL	12.5%	50.0%	50.0%	37.5%	100%	87.5%
	2.Elders	12.5%	37.5%	-	25.0%	12.5%	NIL	12.5%
	3.PSP Representation	100%	37.5%	50.0%	12.5%	25.0%	NIL	NIL
	4.women	100%	12.5%	NIL	37.5%	25.0%	NIL	NIL

OPERATION AND MAINTENANCE COST

10.1 AT PRESENT THE OPERATION AND MAINTENANCE COSTS OF THE 7 VILLAGES WITH PWS/MPWS SCHEMES AND BORE WELLS IN 1990 ARE AS SHOWN BELOW:

OPERATION & MAINTENANCE OF SCHEMES

Sl. No.	Name of village	Salary of Operator	Power bill	Cost of Chemical	Minor Repair	Major Repair	O/M H.P.	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Marriguda PWS	1200x12 14400	-	-	-	3000	10x800	25000
2.	Cherlapally PWS	250x12 3000	-	-	-	-	14x800	14200
3.	Kanchanpally PWS	250x12 3000	-	-	-	3000	12x800	15600
4.	Annaparthi PWS	1200x12 14400	-	-	-	-	11x800	25000
5.	Narsingbatla PWS	-	-	-	-	3000	12x800	12600
6.	Donekal MPWS	250x12 3000	-	-	-	-	9x800	10200
7.	Dandampally MPWS	50x12 600	-	-	-	3000	8x800	10400
Total:								113000
8.	Village-X PWS	750x12	16 Hr. pumping 4.40/Hr. 25000	2 Kg/day Rs.10/day 3600	Rs.100/month 1200	3000	10 HP AVERAGE	49800
9.	Village-Y MPWS	250x12 9000	8 Hr. Rs.4.40/ 12000	1 Kg/day 1800	Rs.50/month 600	3000	8 HP AVERAGE	32800

Approximately it would cost Rs.50,000 for a P.W.S. Scheme annually and Rs.33,000 for a M.P.W.S. Scheme annually.

CP
 4 units/hr
 1 = unit = 1.10 Re.
 CP
 CP
 revenue!

10.2

It is clear that except notified Panchayats no Panchayatⁿ able to finance the maintaining of PWS/MPWS/HP

ADMINISTRATION: The administrative capacity of GP/ water committee need to be assessed. The G.P. is handling JRY funds, administration is supported by MDO/Junior Engineer/VDO etc. A similar arrangements need to be made for W.S./O/M funds. The same applies for accounting. Since, the funds are collected from village community there may be a keen interest/ participation from community.

10.3

The cost sharing by G.P. and community is the source of finance. The G.P./community has no collecting enforcing machinery. Hence, the Government should support the G.P./community to collect the water cess a suggested method is the through land cess/house tax

10.4

At present the resources are not adequate and the response is to go for house connections which are checking the schemes.

10.5

75% of people in the villages surveyed are willing to pay if the schemes work with regularity and reliability. Even SC families are willing to pay Rs.2/- 3/- per month i.e., Rs.24, 36 per year.

10.6

RESOURCE MOBILIZATION OPTIONS

OPTION-I

- Mobilized by GP/community
- Attached to House Tax/
Water tariff
- Can be according previous
agreement as per bye-laws
of water supply and water
use
- Differential rate for
group/yard connections
possible
- G.P. has no enforcing
mechanism
- Collected only from users
- May refuse to pay if no
water is^{not} supplied
- Funds not sure

OPTION-II

- Mobilized by Revenue
Department
- Attached to land
- No variations possible
- Flat rate on land holdi
- Landless free
- Has enforcing mechanism
- Collected from all
including hamlets which
are not covered
- Will pay in all cases
- Funds are sure

CHAPTER 11: OPTIONS FOR ADMINISTRATION
MANAGEMENT OF FUNDS.

11.1. Once the funds are collected by Revenue Department, it can be administered by PRED or local body

OPTION.- I.

O/M. Responsibility with G.P.

1. Funds given to G.P./Committee.
2. Local O/M Procedures less Costly.
3. Repairs done in time.
4. Spare Parts in Open Market available.
5. More Participation.
6. More Sense of Ownership.
7. No. Technical Knowledge.
8. Limited use of funds/Management a single Scheme.
9. Poor administrative managerial capacity. Less accountability for cash.
10. Answerable to local community.

Financial Department

OPTION-II.

O/M Responsibility with PRED or Mandal.

1. Funds given to PRED/MANDAL.
2. Department Procedures high overheads.
3. Official delay.
4. Depends on Stocks.
5. Less Participation.
6. Less Sense of Ownership.
7. Technical Capability.
8. Large no Schemes and Better., Management of funds & People and Skills.
9. Established/Institution. Less accountability for water.
10. Not immediately Answerable.

11. *Cash accountability*

Contd...2.

11.2. Accountability for O/M.

Who is accountable to whom for the running of the Scheme? The G.P. is accountable to people and PRED/MANDAL to Government. We have a choice between two.

Accountability to People or to Government. If today G.P. is Accountable for J.R.Y. Funds, then G.P./Community can be accountable for O/M funds?

11.3. The Present Culture is to hand over (abandon) the scheme in the hands of the G.P. knowing that it has no capacity to carry on the O/M functions. When G.P. is made, more capable financially, institutionally administratively, managerially, it may still need the support of the P.R.E.D. in monitoring and advising.

11.4. Constraints - Bottle necks, solutions.

1. When communities are remote mechanics/Spare Parts may not be easily available. The difficulty applies equally to G.P. Managed and P.R.E.D. managed O/M. If P.R.E.D. Managed, G.P. has to come and inform P.R.E.D.,

2. G.P. Managed scheme may be privatized by a Section of the Community:- The Precaution against this is to educate the Community about the scheme and organise the Community.

3. Mobility:- The G.P.S. do not have mobility and hence have to make use of the Public transport system or hire transport - both of which are difficult in remote areas. The Farmers who own pumpsets face the same Problems and are able to keep their pumps in Order ?

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CHAPTER - 12 FINDINGS & CONCLUSIONS

12.1 AN OVERVIEW OF THE EXISTING REALITIES IN NALGONDA MANDAL:

6

Name of village	Marriguda	Cherlapally	Kanchanpally	Annaparthi	Narsingbatla	Donekal	Dandampally
1. Technical	Pipe faults chlorinator <i>NOT WORKING.</i>	Salty water Too many H Connec- tions.	Water does not reach elevated area.	Too many H. Connec- tions.	Not commi- ssioned.	Sound	No water for III GLSR.
2. Financial (1990)	GP Income Rs. 2767	GP Income Rs. 5613	GP Income Rs. 1936	GP Income Rs. 931	GP Income Rs. 1531	GP Income Rs. 148	GP Income Rs. 1380
3. C.P.	Not aware Not orga- nised.	Aware Not orga- nised.	Not aware or Organi- sed.	Not aware Not orga- nised	Not aware Not organised CYNICAL	Not aware Not orga- nised.	Not aware Not orga- nised.
4. Percent willing to Pay	87.5	75	50	90%	50%	--	--
5. Administration	G.P. has no staff - No Admn.capacity.	GP has no- office/staff	GP has no- Staff:	GP weak, not respected:	No staff or Admn.capacity.	No staff or Admn. capa- city.	No staff or Admn. capa- city.
6. Management	GP has poor managerial skills.	No managerial skills.	No managerial skill.	No manage- rial skill	No skill	No skill	No Skill
7. Accountability	Ownership not clear- No agree- ments.	Accountable to whom? No agreements.	Not clear. No agree- ments.	No agree- ments.	No agree- ments or bye-laws.	No agree- ments.	No agree- ments.
8. Monitoring	PRED Monitors.	NIL	PRED	NIL	NIL	NIL	NIL
9. Support Services.	Present but Not active.	Present not Supportive.	Present not Supportive	Present not Supportive	Present not Supportive	Present not Supportive	Present not Supportive.

12.2 Overview of constraints and bottlenecks:

Technical: The scheme should be made technically sound and a trial run for 6 months before handing over. On the job training for operator for 6 months. Flow diagram and technical details of scheme as existing at handing over time to be recorded and displayed. Annual operation & maintenance, estimates prepared and essential tools provided. These have to be done before rehabilitating the schemes.

Financial: No collection enforcing mechanism with Gram Panchayat support by Mandal Revenue Officer?

C.P.: Awareness building about scheme, its impact and micro institutions like "Public-Stand-Posts-users-group" have to be organised. For operation & maintenance agency's training requirements, an agency to support, is required - NGO?

Administration: Administrative responsibility must be fixed on to a person - Sarpanch? Remuneration for this? Administrative capacity to be built and monitored, Village Development Officer can support this task - explore.

Health Education: On water-Sanitation-Health impact to be carried on M.P.H.W. - DM & HO can orient M.P.H.W. towards this?

Management: Bye-laws, rules, regulation on water supply tariff etc., agreeable to village community to be drawn up and agreed upon by all local groups and users. The local manager to be trained and to base himself on agreed rules. A agency to support - who? explore.

Accountability: Financial accountability and book keeping to be invested with a person - locally, He has to be trained and remunerated partially? Entrust with V.D.O., - Explore.

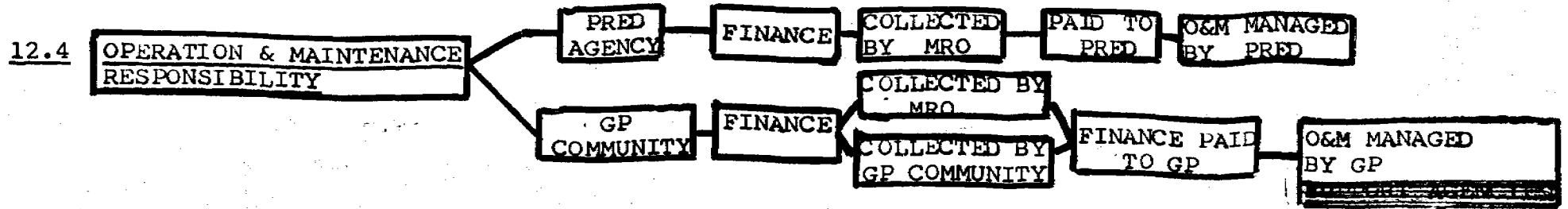
Monitoring: An external agency PRED must agree to monitor and take action in case of mismanagement - Rules regarding this to be agreed upon - PRED?

Co-Ordination of support Services: Support services in areas like, technical (PRED), Financial (MRO), Community participation (NGO), Administration (VDO) Health Education, MPH.W. Need to be co-ordinated for effectiveness, at the village, Mandal, district levels, who can do this - explore.

12.3: Need for institutional development for improved operation & maintenance:

The options are for strengthening the existing institution Gram Panchayat or developing a wing for Gram Panchayat incharge of water supply. The wing can not develop with out the G.P. developing. Hence it is inperative to improve the G.P. institution its image, its funcgion, and its abilities need to be strengthened, and supported. A good institution will improve the operation & maintenance of scheme.

DIRECTION FOR SOLUTION:



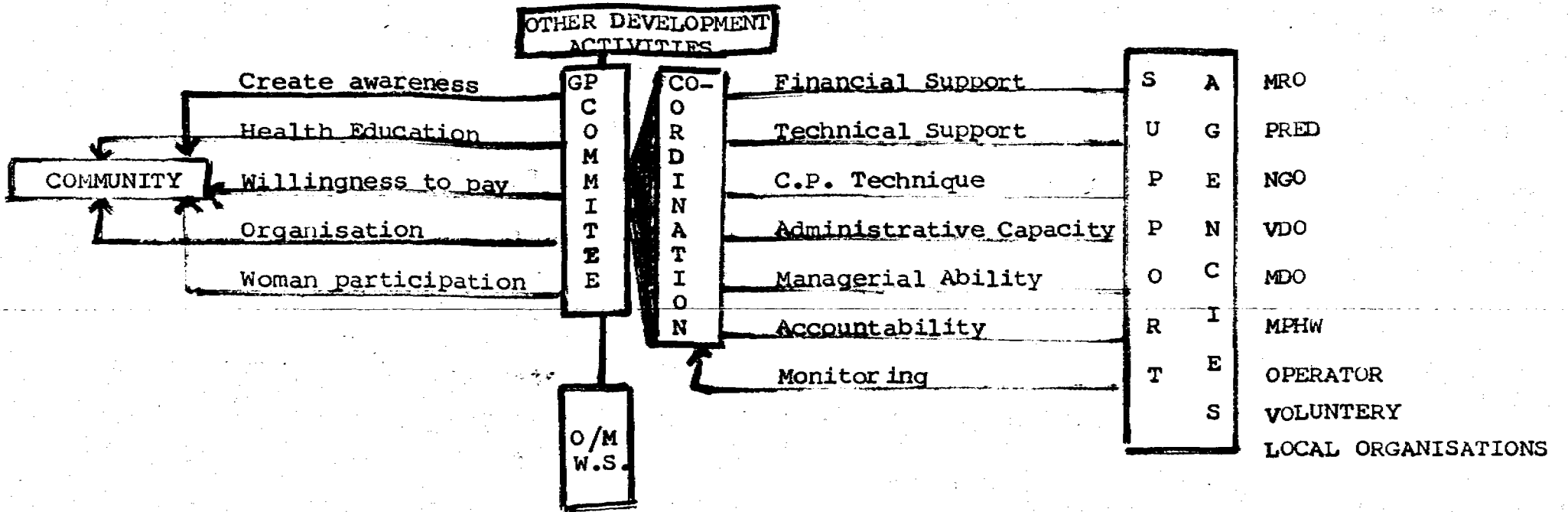
THE GRAM PANCHAYAT: - Or a committee trained and with Minimum (facilities for accounting administration) - to manage operation & maintenance education and organisation of community through support agencies will facilitate the work of operation & maintenance of water supply.

Centre ↗

for paper

125

A MODEL FOR SUPPORT TO GP/COMMITTEE FOR BETTER O/M:



CHAPTER - 13

13.1 AREAS FOR INSTITUTION DEVELOPMENT:

G.P. is a statutory body - but if a separate committee is considered how is it formed - how will it relate to G.P.

OPTION

CONSEQUENCE

- | | |
|---|---------------------------------------|
| 1. G.P. Constitutes Committee or frames rules to constitute committee. | G.P. can abolish committee? |
| 2. G.P. to delegate all financial/responsability of O/M of W.S. to committee. → | Committee will be accountable to G.P. |
| 3. G.P. members to be delegated to constitute and lead the committee. | G.P. is monitors committee. |
| Resolutions to be ratified by G.P.? | Duplicate long Procedures? |

functional committees
co-ops
PPR Vittal Committee
PPR Vittal Committee
by WWSM Shri

13.2 AREAS FOR INSTITUTION BUILDING.

In Ranga Reddy and Nalgonda districts the Collectors have expressed doubts whether a parallel institution at the village level like a "Water Committee" will work any better than the G.P. Hence one option is either to strengthen the G.P. or invite other members who are concerned with W.S. to G.P. (a wider body) to take care of O/M of W.S. Another option is that the G.P. delegate this task to a member or members (women) to form committee and take charge of O/M. In the latter case, we should think of the type relationship that will exist between G.P. and Committee especially in the area of financial accountability, the rules for constitution of the committee, G.P.'s power to withdraw authority delegated and in case of dispute, with users, appeal made to G.P.?

Shri ...
GP (Collectors)
DPO

After the constitution of the body responsible for O/M of W.S., this committee should acquire.

1. Knowledge of the design of the scheme.
2. Minimum knowledge about water/sanitation its impact on community health
3. Ability to organise, involve the community in O/M, knowledge of O/M costs.
4. Financial control - decision making power.
5. Administrative and Managerial capacity.

action plan
5% of mandal revenue for W.S. work
5% ZPP contribution

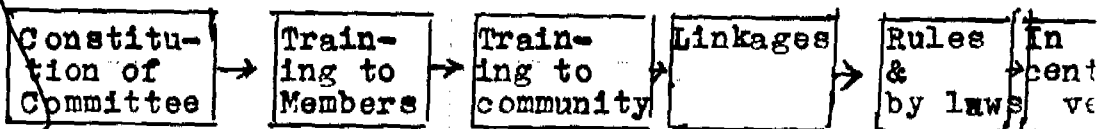
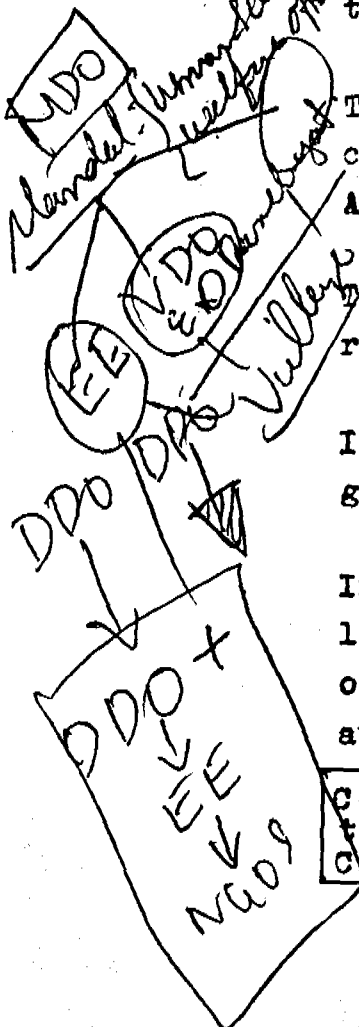
The group can get the support of agencies to acquire this knowledge and skills. The committee will also arrange for education and organisation of the community to involve in O/M.

The body should draw up a set of rules/bylaws for its conduct and also for distribution of water and tariff. Agency support is required for this.

The body should have the ability to conduct meetings, record minutes, resolutions.

It should have linkages with other such committees or groups to exchange views.

Incentives other than monetary (nominal sitting fees?) like opportunity for training, visit to water works, other committees, health projects etc., should be available to the committee members?



13.3 AGENCIES TO BE INVOLVED:

1. PRED - Technical Training.
2. D.P.O. Administrative - E.O.P. Managerial - ability.
3. DM + HO - Health education.
4. V.D.O. - To convene meetings regularly and record?
5. N.G.O. Community organisation.
6. M.D.O. Co-ordinate agencies and committee

13.4 AT VILLAGE LEVEL:

PRED will monitor by periodic inspection and instruct committee. Operator reports to committee committee accountable to G.P.

AT MANDAL LEVEL:

Review meeting of presidents of committee called by MDO and attended by PRED - Health department, women child welfare department and C.P. Agency.

DISTRICT LEVEL:

Review meeting of PRED., M.D.O.'s, health department woman and welfare department and C.P. agency convend by D.D.O., to review the common problem of W.S. sche and training needed in specific areas.

AT STATE LEVEL:

PRED., to review the working of RWS - the working o committees and their accountability and report.

13.5 TECHNOLOGY MANAGEMENT:

The options are to leave this area to PRED/Committe or share. The choice of sharing technology managemene should be left to the committee. PRED could draw up list of standard repairs and the cost of the service

Handwritten notes:

MDO/VDO
E Staff
Gmt S/S/...
VDD/H/W
...
M.P. H.W. / ...

ANNEXURE - DINDIVIDUAL PWS/MPWS. SCHEMES IN NALGONDA MANDALD. 1. Marriquda: PWS.Hamlets: Girikivaniguda - 40 families.

Sundarayya Colony - 44 families.

Marriquda: S.C.Colony - 300 families

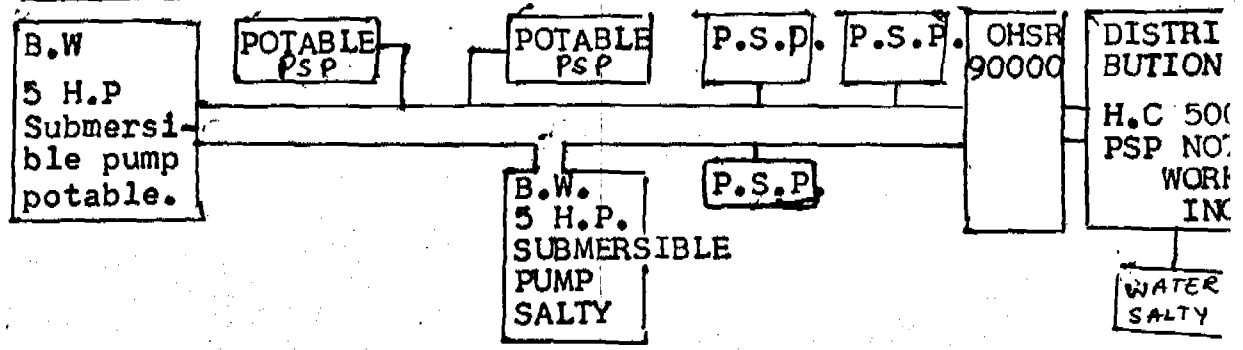
Bore well	5 HP submersible pump	Chlorinator Not working	OHSR 40,000 litres.	Distribution PSP 18 H.C. AU.
-----------	-----------------------	-------------------------	---------------------	------------------------------

- Water Supplied in the morning to one section (2 hours and in the evening to another section (2 hours) -
- 30% village not covered due to H.D.P.Pipes not replaced by AC.Pipes.
- Water Source far away for these people - Dis-satisfaction.
- Recently taken over by P.R.E.D.from G.P. - House connections removed.
- For better functioning:-
 - Lay AC.Pipes for 4 more PSPs.
 - Support/Educate GP/Community to maintain the scheme.
 - Suitable arrangements for collecting finance
 - Frame rules/by laws for water supply-tariff.

D.2 CHERLAPALLY : FWS :

Hamlets - Balthulapally - 30 families | 4 Kms., away
 Thalavarigudem - 30 families

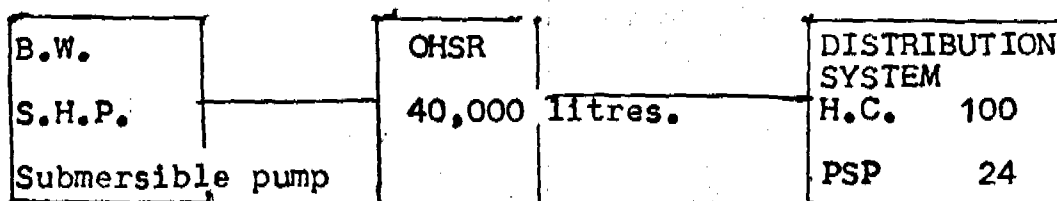
Flow diagram :



- Water supplied once a day - in 2 days for 2 hours.
- 50% village covered with house connection of these 10% do not get water due to elevation.
- The water at PSP available for 24 hours on pumping main.
- people are revolting due to difficulty in getting water.
- Panchayat weak - la administrative managerial capacity.
 - no meetings held
- for better functioning :
 - rules by-laws for water supply
 - repair all hand pumps
 - remove house connections and install sufficient no. of PSPs.
 - organise people (women) in maintenance.
 - remove PSP on *pumping* main supply potable water

D.3 KANCHANPALLY : PWS:

Namlets : Deepakonda - 100 families - 2 Kms., only
Kanchanpally - S.C.Colony.

Flow Diagram:

- Water is supplied morning only
- 50% of the village covered by house connection, and of these 15 % do not get water due to elevation.
- No official operator - only voluntary operator who hopes to become P.R.E.D. Employee.
- 50% people are dissatisfied.
- Panchayati weak and needs support in managerial, administration.
- For better functioning :
 - Appoint good operator
 - remove house connections ^{or} (reduce)
 - see that water all PSPs are working
 - organise/ educate community for participation
 - suitable arrangements for collecting finance
 - make rules by-laws for water supply.

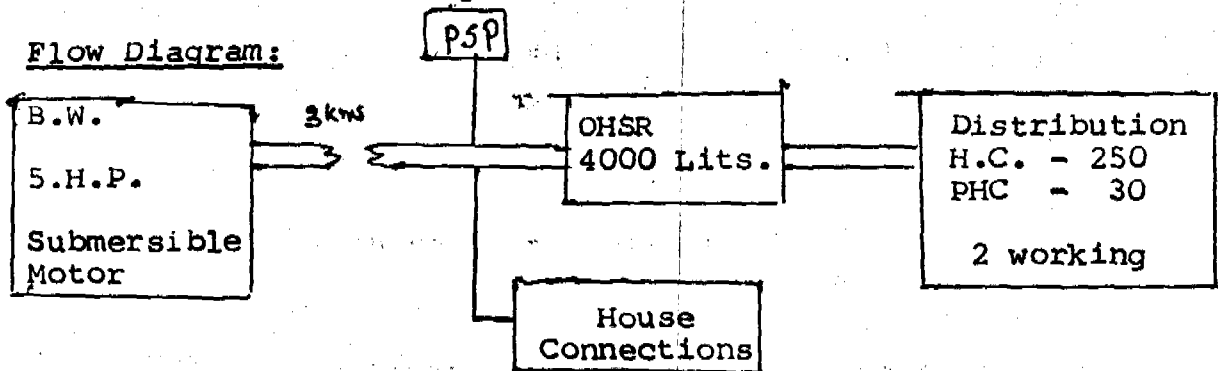
D.4 ANNAPARTHY: PWS:

Hamlet - Kammaguda - 10 families - 2 Kms.,

GLSR connected to pumping main

Annarparthy - BC Colony - Across Railway

SC Colony.

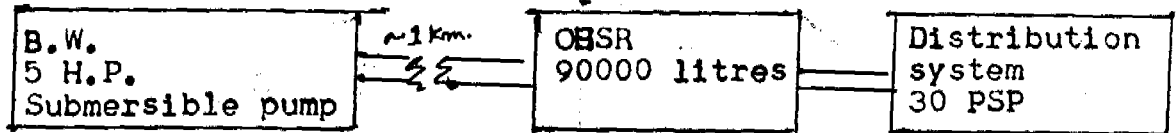
Flow Diagram:

GLSR
Annagudem.

- Water is supplied twice a day
- 50% have house connections but due to illegal tapping, water does not reach to all connected houses.
- only 2 - 3 out of 30 PSPs are working.
- The scheme was taken over by PRED & house connections removed - but now more illegal connections have appeared
- operator paid by PRED
- Panchayat weak - inefficient.

For better functioning:

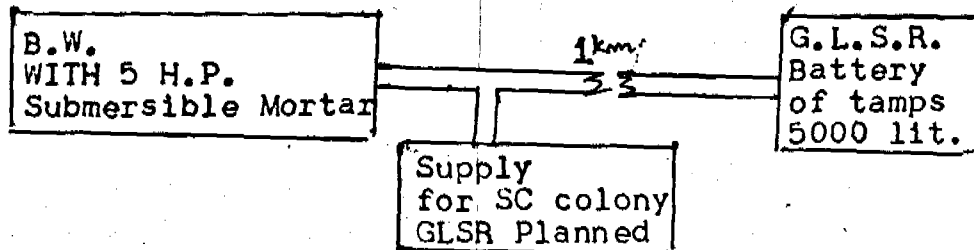
- make rules bye-laws for water supply - tariff.
- bring community pressure on those who misuse.
- stop "pumping-main" connection.
- restore PSPs.
- support Panchayat, in organisational administrative, managerial functions.

D.5 NARSING BATLA: PWSFLOW DIAGRAM:

- Scheme commissioned in 1974. never functioned properly - no handing over
- the distribution system alleged to be defective
- the switching gear stolen twice
- No operator
- tank construction deteriorating - chunks of plastering fallen
- people loosing faith in the scheme

For better functioning:

- PRED commission the scheme and run it on a demonstrat. for six months
- hand over to G.P.
- GP will draw up rules/by laws-tariff - for house connections
- see that water reaches all PSPs
- organise, educate community
- get support for administrative managerial skills
- make arrangements for collecting finance.

D.6 DONEKAL: M.P.W.S.FLOW DIAGRAM:

- * Water is available 24 hours
- * People are satisfied
- * bore ^{with H.P.} well _a drying - GLSR - main source of water
- * Community is poor - backward?
- * Operator poorly paid
- * for better functioning:
 - organise educate community about the scheme - im
 - make arrangements for collection of finance
 - make G.P. strong - regular meetings. planning- participation
 - support community for organisation, administrative & managerial skills.
 - Better paid operator.

D. 7 DANDAMPALLY M.P.W.S.

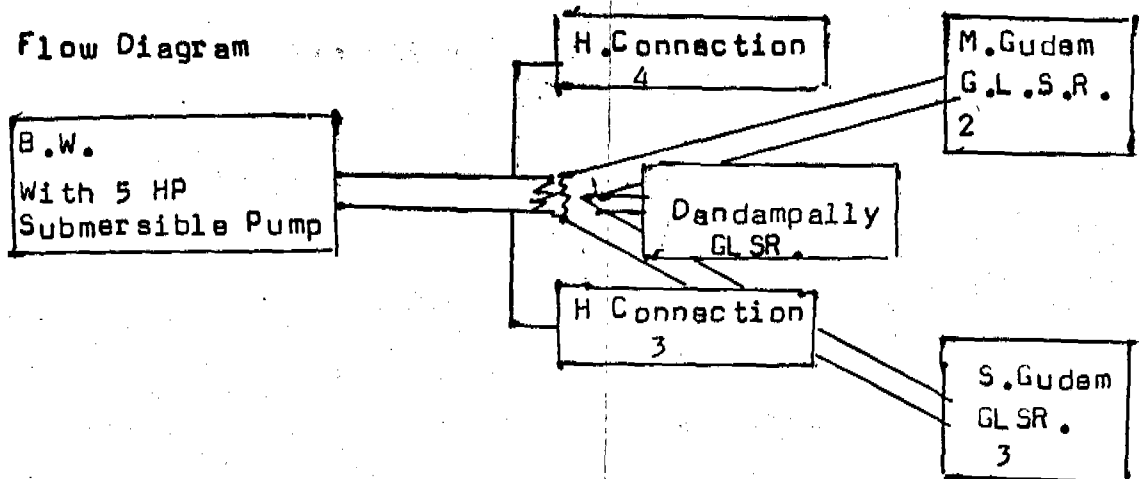
The village has 3 sections with 3 G.L.S.Rs.

Dandampally GLSR.

Medabhigudem GLSR.

Sugabhonigudem GLSR.

Flow Diagram



- * Water is supplied 2 hours morning and 2 hours evening
- * the battery of taps have no closing mechanism hence tanks cannot store water
- * the operator is part time
- * due to non-operation valves and elevation problems the 3rd GLSR. do not receive sufficient water
- * for better functioning:-
 - appoint better paid operator
 - repair taps - valves.
 - remove H.C. on pumping main
 - frame rules & By laws for water supply
 - make arrangements for finance collection
 - support GP. for organisation, administration management.

ANNEXURE - BLIST OF PERSONS / ORGANISATIONS MET

1. PR&B. Superintending Engineer - Nalgonda R.R. Dist.
2. PRED. Executive Engineer Nalgonda.
3. PRED. Executive Engineer Bhongir.
4. Deputy Executive Engineer - Nalgonda.
5. District Collector - Nalgonda.
6. Zilla Parishad Chairman NALGONDA
7. Ex-chairman, Zilla Parishad, NALGONDA.
8. Mandal Praja Parishad President Nalgonda.
9. Mandal Development Officer Nalgonda.
10. Woman and Child Welfare Department - District Director
11. District Medical & Health Officer.
12. District Panchayat Officer.
13. District Planning Officer

VILLAGES GENERAL

S.No.	Item.	Marriguda	Cherlapally	Kanchanpally	Annapparth	Narsingabatla	Donekal	Dandampally
1.	Distance from Nalgonda kms	8	8	5	12	25	15	10
2.	Population 1981 census	2030	3775	1927	1411	2947	694	1340
3.	SC/ST	593 17	878	-- 474	-- 333	434	-- 139	-- 448
4.	Hanlets.	2	2	2	1	-	2	2
5.	Govt. Institutions.	P.School Dispensary	H.School	GP.School	P.School	GP.School Vet.Hospital	P.School.	P.School
6.	Traditional source WS	Open wells now defunct.	Open wells	Open wells	Open wells	Open wells	Open wells	Open wells.
	No. H.P.	13	14	12	11	12	9	8
	No. working.	10	8	5	9	11	3	7
	Type of Scheme.	P.W.S.	P.W.S.	P.W.S.	P.W.S.	MP.P.W.S.	M.P.W.S.	M.P.W.S.
	Quality of water utilised.	Potable.	Not potable.	Potable	Potable	Potable	Potable	Potable.

LIST OF REFERENCE DOCUMENTS

1. Andhra Pradesh Gram Panchayat Act 1964
2. Evaluation of Rural Water Supply cirucess sandy IRC.1985
3. Achieving success in community water supply & Sanitation
SEARO - Regional Health Papers - 9.
4. Self evaluation - ideas on participatory evaluation of
rural community development projects.
World Neighbour Publication - 1986
5. Guide lines for planning community
Participation activities in water supply and sanitation
projects
Anne Whyte WHO Off set
Publication No. 96
6. Socio Economic unit publications NAP.Kerala.
7. Pani Panchayat = NAP.Gujarat.
8. Community Water Supply & Sanitation
WHO/CWS/89.5 Vol.I & II.
9. Minimum Evaluation Programme ~~MEP~~ ----

O/M TECHNICAL ASSESSMENT

S.No.	Item.	Marriguda	Cherlapally	Kanchanpally	Annaparthi	Sarsingbatla	Donekal	Dandampall
1.	Type of schme	P.W.S.	P.V.S.	P.W.S.	P.V.S.	P.W.S.	M.P.W.S.	M.P.W.S.
2.	Maintained by	P.R.E.D.	G.P.	G.P.	P.R.E.D.	G.P.	G.P.	G.P.
3.	Capital costs (Rs. in lakhs)	2.67	4.50	3.57	3.60	3.00	1.00	2.00
4.	Capacity of tank	40,000 Lits.	90,000 ltrs.	30,000 ltrs.	40,000 ltrs.	675000 Ltrs.	5000 ltrs.	5000 x3 150000 ltrs
5.	Hours of pumping	12	24	12	18	12	8	4
6.	Hours of supply 3(section-wise)		2 hrs in 2 days	2	2	2	24	4
7.	Level of function populationcovered	70%	50%	80%	50%	Not regular	100%	80%
8.	No. of House connec- tions.	Nil	500	100	250	Nil	Nil	7 on P.Main.
9.	Salary of operator	Rs.1200/	250/	250/	1200/	—	250/	50/
10.	No. of PSP	18	5	24	30	30	Battery	Battery
11.	No. of breakdowns in 1990	1	—	1	1	1	—	1
12.	Time taken to resume	15 days	—	2 months	1 month	1month	—	1 moth
13.	Sanitation at PSP	OK	OK	Poor	Poor	OK	OK	Poor
14.	Chlorination	Nil not working	Nil —	Nil not working	Nil not working	Nil —	Nil —	Nil —

TOTAL HAND PUMPS IN VILLAGES STUDIED

Sl. No.	Hand Pumps at	Total No. of H.Ps.	No. of H.Ps. working	% H.Ps. working	No. Of H.Ps. not working	% not working	Type of Schemes
1.	Marriguda	13	10	70.7	3	29.3	PWS
2.	Cherlapally	14	8	52.1	6	47.9	PWS
3.	Kanchanpally	12	5	41.65	7	58.35	PWS
4.	Annaparthi	11	9	81.8	2	18.2	PWS
5.	Narsing Batla	12	11	91.7	1	8.3	PWS
6.	Donakal	9	3	33.3	6	66.7	MPWS
7.	Dondampally	8	7	87.5	1	12.5	MPWS
8.	Appajipet	18	14	77.7	4	22.4	-
9.	Domaipally	14	11	78.6	3	21.4	-
10.	Chandampally	9	5	55.5	4	44.5	-
11.	Velugupally	24	16	66.6	8	33.4	-

