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INTEGRATED APPROACH TO
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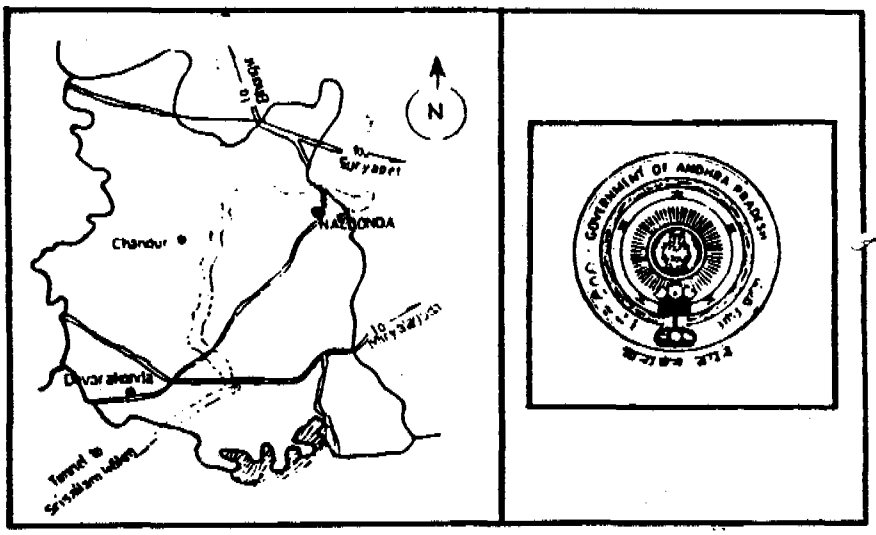

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NETHERLANDS ASSISTED PROJECTS - ANDHRA PRADESH
NAP - AP III

NALGONDA - PHASES 1 AND 2

INTEGRATED PROJECT DOCUMENT

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WHY THIS DOCUMENT

Two concepts characterise NAP AP III: integrated approach and participation.

Participation is a two-way process. Participation cannot be advocated and practiced by people who have not experienced participation. Hence, before the project talks of participation of the people, participation should begin with the project planners and implementors - in joint planning, in building into the plans flexibility to respond to people's needs, in developing human resources and skills to confidently take plans to the people and to elicit their views and accordingly re-design them.

In this sense, participatory process is a double edged sword -it cuts both ways. Programmes can be made more effective, but at a price! People must be involved, but with the full knowledge of what this will demand of us planners. We have to be prepared and equipped to change our attitudes, work-style and management approach. Innovation and change are painful processes and participation is more than the latest development-speak.

This integrated project document is only one of the indicators of the commitment we are making to the participatory approach. If programme delivery at the community level has to be a holistic intervention, the various components must be dove-tailed into an integrated whole and the agencies involved see themselves as partners, cutting across departmental walls and hierarchy layers, and sit together to listen, to learn, to relaunch - so that we can proceed beyond our limited targets, to building up the people, their confidence in what we do, their sense of pride and belonging to the project. Because only these can finally guarantee a feeling of ownership and the responsibility for good utilisation and maintenance.

NAP Office has been discharging this task of inter-agency coordination right through the implementation of AP II and the planning of AP III, with PHED playing a supportive role. But under AP III, a role reversal is envisaged. PHED is to take the pivotal role and NAP Office to provide support.

Indeed, this is how it should be. Participatory approach to water and sanitation cannot be limited to isolated interventions. They should be replicated and spread into the entire sector. For this the nodal sector agency, Panchayati Raj Engineering Department, should take the leadership role, and more importantly, build up the skills and institutions for such catalyzing role.

This integrated project document is the first step in this direction. The PHED has integrated all the proposals from various specialist agencies into one whole, with the support of NAP Office.

We have summarised the various project documents prepared by the agencies invited to participate in the project - Arthik Samatha Mandal, ICDS, NAIMUL, Serifed. For more detailed understanding of the organisations, project strategies and operational plans, reference may be made to these documents.

The schematic layout of this integrated document is as follows:

a. Background to the Water/Sanitation Sector in AP and to Netherlands Assisted Projects

b. Background to AP III Nalgonda

c. Water Supply Construction Component of AP III Nalgonda

(CPWS Scheme for 226 Revenue Villages and 337 Hamlets in Nalgonda District - Volumes I & II - Documents prepared by Superintending Engineer, PR(NAP), Hyderabad)

d. Community Based Support Activities

1. Community Participation and Health Education

(Community Participation and Health Education - AP III Nalgonda - Document prepared by Arthik Samatha Mandal, Vijayawada)

2. Sanitation Project

(Sanitation Document, Nalgonda District - Volumes I & II - Prepared by Office of the E-n-C, PRED, Hyderabad)

3. Mother and Child Health/Development

(Mother and Child Health/Development - Document prepared by Director and Ex-officio Joint Secretary, Women's Development and Child Welfare Department)

4. Income Generation - Dairying

(Income Generating Activities - Scheme 1: All Women Dairy Cooperatives - Document prepared by the General Manager, Nalgonda - Rangareddy Districts Milk Producers Coop Union, Limited.)

5. Income Generation - Sericulture

(Farm to Fabric Programme in Nalgonda District under Netherlands Assisted Projects - Document prepared by Director, Serifed, Department of Sericulture)

e. Institution Development

1. Human Resources Development for PRED

(Netherlands Assisted Projects - Nalgonda District - Integrated Approach - HRD Document - Volumes I & II - prepared by the Office of the E-n-C, PRED, Hyderabad)

2. Management Information System Development Support for PRED

(Netherlands Assisted Projects - Andhra Pradesh - AP III - Nalgonda - Phase I - Institution Development Component - Activity 2 - Management Information System Development

- Document prepared by the Office of the E-n-C, PRED, Hyderabad)

f. Operation and Maintenance

g. Project Execution/Coordination/Monitoring.

However, integration at the institutional and operational levels will be more challenging. Some steps have been initiated in the joint meeting convened by the Principal Secretary, RW&RD. But these must be carried forward further. The strategy for further action will be three-pronged:

1. Equipping the office of the E-n-C, PRED, with expertise for planning/coordination and monitoring of integrated and participatory approach, with its concomitant institution development demands.

2. Setting up institutions for inter-agency coordination and interaction with the people, as close to the ground as possible, at the project level, and supporting these institutions with high level review at the state level

3. Orienting and equipping PRED project personnel with know-how and skills in planning/monitoring the integrated and participatory approach, as they are to be the nodal officers at the project level.

Certainly, the challenge is formidable. But a commitment is made to it. The way PRED proposes to convert the vision into practice is detailed in this Integrated Project Document.

PRED shall look to NAP Office/RSMs/RNE/RNG for support and understanding cooperation, especially during the initial stages of institutionalisation of this innovative approach within the presently technology/target oriented departmental set up.

This effort to introduce a third dimension to PRED is in itself as challenging as AP III Nalgonda. This integrated document is just the beginning!

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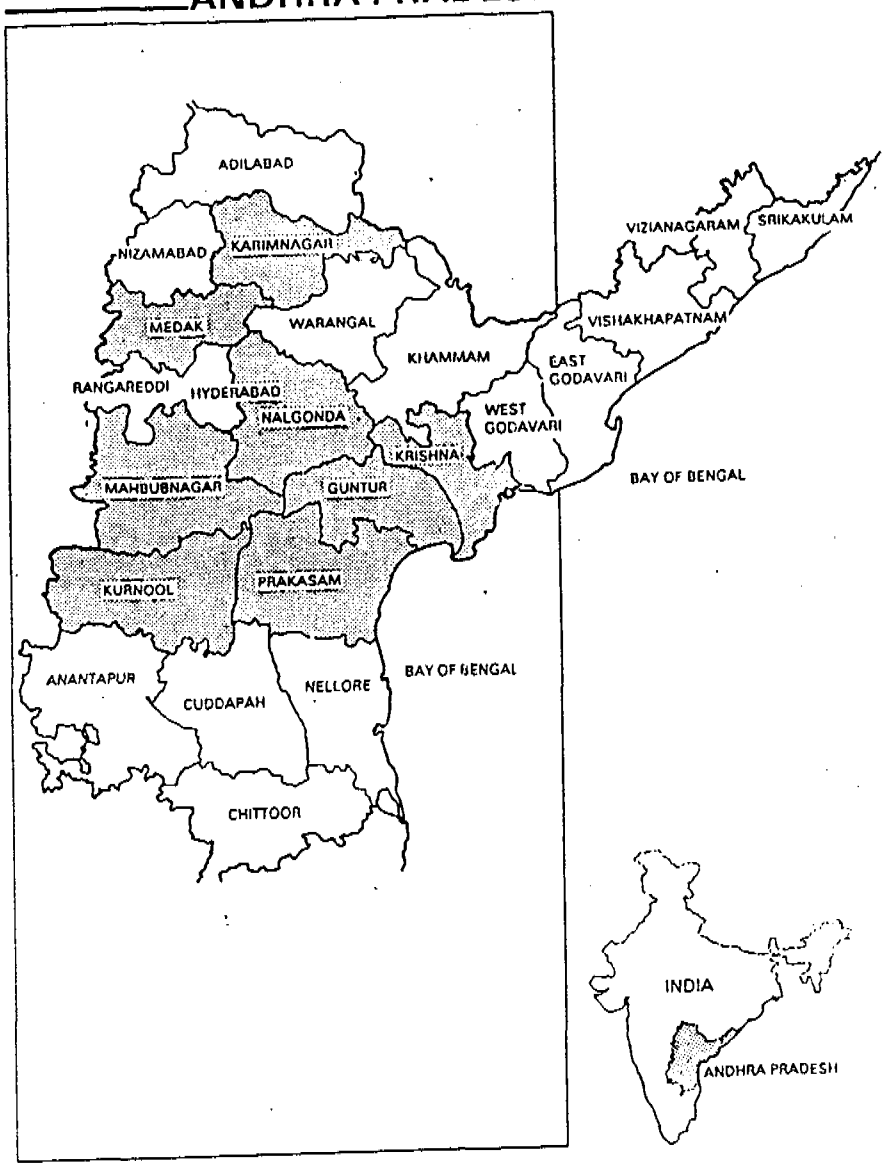
PART 1

BACKGROUND TO WATER/SANITATION SECTOR IN AP
AND NETHERLANDS SUPPORT INTERVENTIONS

ANDHRA PRADESH



1. RURAL WATER SUPPLY AND SANITATION SECTOR SCENARIO:

1.1 Background:

Andhra Pradesh is the fifth largest state in India (70 million people and surface area 2.77 lakh sq km). 3/4 of the state is rural, with 50 million people living in 27,379 villages and 35000 hamlets, in cluster habitations widely scattered all over the 23 districts. At the fringes of these villages are the harijanwadas (about 10 million people) and the tribal thandas in notified tribal areas (about 4 million tribal population). These rural villages/hamlets are covered by 19517 gram panchayats under the local administration (Panchayati Raj) set up.

1.2 Water Supply Sector Interventions:

The RWS/S sector is three decades old. It started with borewell programmes for drought hit districts and has steadily grown over the years. Investments are estimated at Rs. 543 crores.

The norms adopted for identifying problem villages are as follows:

Category 1: Water not available within 1.6 Kms. radius
Category 2: Areas which are endemic to water borne diseases
Category 3: Chemically unwholesome sources

Out of these 27379 villages, 22860 have been identified as problem villages. Upto March 1991, 18416 problem villages were covered through 1.66 lakh bore wells fitted with hand pumps, 9117 MPWS/PWS schemes and 8 CPWS schemes. The balance problem villages are planned to be covered during the VIII plan.

With falling ground water tables, bore well schemes are now yielding inadequate supplies. This adds annually to the list of problem villages under the category of scarcity. Further fluoride/salinity effected areas have to generally depend on surface water sources. These problems have placed heavy resources constraint on the Government. It is hoped that external assistance can be mobilised in a bigger way to meet the challenges.

1.3 Technology:

The technology adopted for RWS ranges from simple handpump fitted borewell to complex comprehensive scheme covering a population of over 1.25 lakh (111 villages), with treatment units, large pumping mains, overhead service reservoirs, intermediate booster stations, and internal distribution through public standposts. The treatment units range from disinfection with bleaching powder to rapid sand filtration followed by disinfection (primary and booster). Under the Technology Mission, desalination and defluoridation plants are also being introduced.

Schemes executed can be broadly categories into four types of schemes:

a. Spot sources: bore wells fitted with hand pumps

b. Mini Protected Water Supply Schemes (MPWS): Schemes with surface or ground water as source, and a single point distribution

c. Protected Water Supply Schemes (PWS): schemes with surface or ground water as source and a full fledged distribution system covering one to three villages.

d. Comprehensive Protected Water Supply Schemes (CPWS): These are PWS schemes covering a large area from more than 6 upto 100 or more villages.

1.4 Sanitation Interventions:

The policy upto now has been to spread the meager resources thin. The state programme (Vimukthi) was launched in 1983. and later supplemented by centrally sponsored and UNICEF assisted programmes. Investments have been Rs. 16 crores and facilities provided 1.47 lakh individual and 1900 community latrines. Most are not utilised, or add to the sanitation burden.

Achievements are thus generally minimal. However, a renewed start is now being made under the auspices of UNICEF and Netherlands Assisted Projects, involving voluntary agencies, and adopting intense coverage approach.

1.5 External Support:

External interventions in RWS/S are limited to Netherlands, UNICEF, and the World Bank. Netherlands project inputs over two phases (1979-1991) have been Rs. 51.50 crores for covering 489 villages in 8 districts with 16 CPWS and 83 PWS schemes. A lift irrigation scheme is also taken up, at a cost of Rs.8.50 crores. Apart from this, the Royal Netherlands Government has committed 7.80 crores for the support activities. The World Bank credit of Rs.20 crores is to cover rehabilitation of 328 cyclone affected schemes and construction of 30 CPWS (covering 200 villages) in cyclone-prone coastal districts. The borewell programme and sanitation have been supported largely by UNICEF.

1.6 Technology Mission:

The National Drinking Water Mission launched by GOI in 1986. focusses on specific issues like brackishness, excess fluoride, guinea worm eradication, ground water management, water quality surveillance, etc. The program is implemented under the Mini and Sub Missions. There are three mini mission programs in AP.

Under Sub Missions the following additional activities are also taken up: scientific source finding, water harvesting structures, solar photo voltage drinking water systems, etc.

The technology mission is operating as the pivotal agency for shaping policies and strategies under the water supply/sanitation sector.

2. SECTOR AGENCY:

The task of providing safe drinking water and sanitation facilities to the rural population is vested with the Panchayati Raj Engineering Department. PRED is also the rural engineering wing of the Panchayati Raj set up, with responsibilities for the technical aspects of: rural infrastructure development such as construction and maintenance of school buildings, health centres, panchayati raj buildings, minor irrigation works, panchayat roads etc. The technical components of all rural development works taken up under the Panchayati Raj set up, at the district, mandal and gram panchayat level are also implemented under the supervision of PRED.

2.1 Organisational Set Up for Rural Development Tasks:

The Ministry of Panchayati Raj and Rural Development is responsible for all rural development activities in Andhra Pradesh. This excludes 4 cities and approximately 100 municipalities that came under the jurisdiction of the Ministry of Urban Development.

The Panchayati Raj & Rural Development Department has two wings: the Panchyati Raj Commissionerate (PR&RD) and the Panchayati Raj Engineering Department (PRED). The department is headed by a secretary assisted by additional and joint secretaries. Both the wings report to this Secretary who in turn reports to the Chief Secretary, and to the Panchayati Raj Ministry, headed by the Minister for Panchayati Raj.

A District Collector is the head of a district and is responsible for coordinating all activities at that level; for maintenance of law and order, revenue collection, developmental activities and in matters of protocol. A District Development Officer (DDO), who reports directly to the District Collector, is charged with the responsibility for planning, coordinating and monitoring all rural development activities, including water supply and sanitation programmes.

Each district is divided into 15 - 30 Mandals. At the Mandal level the DDO is assisted by two officers: the Mandal Revenue Officer and the Mandal Development Officer. The MDO is specifically responsible for rural development works.

Each Mandal is subdivided into 5 to 15 Gram Panchayats, each consisting of a main revenue village and a few hamlets. Both the MRO and the MDO are assisted at Gram Panchayat level by Village Assistants (Village Administrative Officers), and Village Development Assistants.

District development, at the political plane, is vested with the Zilla Praja Parishad (ZPP). In each Mandal, a chairman heads the Mandal Praja Parishad (MPP), while at Gram Panchayat level (GP), a committee is chaired by a Sarpanch. Direct elections determine the compositions of the Gram Panchayats and the Zilla Praja Parishad. These constitute the ground level peoples political institutions under Panchayati Raj set up.

2.2 PRED: the Engineering Wing of Panchayati Raj

The task of providing safe drinking water and sanitation facilities for the rural population is vested with the Panchayati Raj Engineering Department. PRED is also the engineering wing of the Panchayati Raj, with responsibilities for: rural infrastructure development such as construction and maintenance of school buildings, health centres, panchayati raj buildings, minor irrigation works, rural roads etc. As the engineering wing of the panchayati raj institution, PRED is also accountable to peoples bodies and district administration.

2.3 Set Up of PRED:

The department has at the moment 4 Chief Engineers, 20 Superintending Engineers, 95 Executive Engineers, 2500 graduate/diploma holder field engineers and a large number of technical and administrative support staff. Administration is with the seniormost Chief Engineer, who has the rank of Engineer-in-Chief.

At the state level the Chief Engineers are responsible for specific sectors of activities. At the district, division and sub-division level, the monitoring and implementing staff are responsible for all activities and report to all CEs. At the field level (mandals), one junior engineer is to be responsible for gram panchayat and mandal works and another for Zilla Praja Parishad works and rural water supply/sanitation.

Each CE has support staff, such as cells for projects sponsored by the Netherlands, the United Kingdom (school building program), Technology Mission, Rural Sanitation, Vigilance and Quality Control, Monitoring, General Administration, Rigs Workshop, Training, etc. These cells are headed by SEs/EEs.

Next in line are the Superintending Engineers (SE). They are accountable only to the CEs, as there is no functional sub-division within PRED on the basis of the type of work. All staff within PRED can be assigned to any type of civil engineering work at any time. Each SE supervises 2 districts (circle).

Each circle is subdivided into six to eight divisions, which are headed by an Executive Engineer (EE). The EE is in charge of approximately 10 Mandals. The EE reports and is accountable both to the SE and to the District Collector/DDO and to the Zilla Praja Parishad. They have administrative and technical support staff in their divisional offices to assist them in their technical, financial and administrative responsibilities. The EEs form the executive backbone of the department and are the pivotal agents for the whole of the rural infrastructure development planning, execution and maintenance. Officers above the EE - the SE and CE - are essentially monitoring/coordination/planning officers.

EEs are assisted by Deputy Executive Engineers (DEE) at sub-division level covering around 3 to 4 Mandals. Below this level are the section officers: Assistant Executive Engineers (AEE - graduates) and Assistant Engineers (AE - diploma holders), who are in charge of 1 to 2 Mandals.

or 10 - 15 villages. They are assisted by technical staff.

However, beginning with Netherlands Assisted Projects, exclusive circles and divisions are being set up, responsible for specific projects and accountable only to the department. At present, such approach has been extended also to the APCER projects also. The NAP set up (2 circles and 4 execution and 1 maintenance division) is responsible only for execution/maintenance of RWS/S programmes funded by Netherlands. But, under the APCER, the set up is very similar to the conventional PRED organisation, except for the fact that personnel are responsible only for the World Bank Projects (Water supply and Roads/Minor Irrigation/Buildings).

2.4 Budget:

The PRED, like all other departments, prepares work plans and budget requirements for each five year plan. Budget allocations are proposed under various state/centrally sponsored and bi-lateral/multi-lateral programmes, on-going and anticipated. Once this budget is approved by GOI/GOAP, annual plans based on the five year plans are prepared by the CEs, consolidated at the Secretary level, and presented to the government, which in turn presents it to the Assembly as part of the state annual budget. After the approval of the budget, the CE allocates funds to the EEs on a quarterly basis, depending on the projected workload for the year.

The annual budget of the department (for all works) is around Rs.300 crores, of which allocation for RWS/S is around Rs.50 to 55 crores. The major sources of funds for RWS/S are: centrally sponsored Accelerated Rural Water Supply Programme, state sponsored MNP (bilateral funds are included under this head), special programmes such as DPAP, Technology Mission, etc. 10% of all funds are earmarked as SC component.

The allocation under the VII plan had been Rs.224 crores for RWS and Rs.17 crores for sanitation. Under the VIII plan, the proposed outlay for RWS is Rs.450 crores, and for sanitation Rs.25 crores. This includes anticipated inputs from bilateral assistance, and World Bank. Outlay provided for HRD (1 crore), MIS (2 crores), O/M (25 crores), water quality monitoring (3.45 crores), community participation (1 crore).

3. CRITICAL SECTOR ISSUES:

3.1 Operation and Maintenance:

The most critical issue now being faced by PRED is the operation and maintenance of the RWS assets created, and to be created.

At mandal level, a junior engineer is to be responsible for all water supply schemes (average no. of schemes: 15 to 20). But, due to inadequacy of staff, the junior engineer responsible for the GP works has to look after also RWS. Infrastructure, mobility and resources at

his command are inadequate. Often, O/M comes very low in the priority of a field engineer.

The present practice is to hand over the piped water supply schemes, to the Gram Panchayat after its completion. The GP is expected to maintain the scheme with its own resources and man power. The government partially subsidises the cost: all except major panchayats are exempt from electricity charges on PWS schemes. PRED is responsible only for breakdown maintenance, and for periodic corrective/preventive monitoring.

But, often the GPs have neither the financial resources nor the technical know-how to manage a scheme, especially when it involves treatment units, pumps and large distribution net work. Majority of the schemes operate below acceptable standards. The situation is comparatively better, if the scheme has house-connections, for which donations and monthly tariff are collected. In this case, the availability of funds and the pressure from the influential sections of the community together contribute to better care for O/M from the sarpanch and the operator.

Nevertheless, given the resource crunch, and the almost physical impossibility for the state maintaining thousands of schemes, a policy decision has been taken that O/M has to be taken over by the GPs. This calls for new institutional/financial/administrative/technical arrangements for O/M, since it is clear that the present arrangements are inadequate.

3.2 ARWS Norms/Private Connections:

The norms adopted under ARWS: 40 lpcd, per capita cost ceiling (around Rs.250/-), are inadequate to realistically respond to rural water supply demands. Most technical solutions remain ad hoc and villages once tackled, continue to reappear as problems in subsequent years. The number of problem villages do not in effect get reduced.

Though private connections are prohibited and systems are not designed for them, private connections are a reality in most RWS schemes, albeit illegal. GOAP loses precious revenue, and the weakest sections are deprived of their legitimate share of the water. Systems go into disarray and people revert to their traditional sources.

On the other hand, if schemes have to be designed for house connections, the cost will go up, unless cost sharing even for revenue expenditure is possible. Though under the MNP, provisions exist for cost sharing as a ratio of the income of the panchayat and the cost of the scheme, since the ARWS are totally subsidised, there is reluctance from GPs for taking up schemes under MNP.

3.3 Tariff and Revenue:

Because systems are designed only for minimum service, they are considered social services, to be paid for and serviced by the government. Community involvement in capital cost sharing is exception

than the rule, even under MNP, where if at all, it consists of at source deductions from grants to GPs.

Only in the case of CPWS and bilaterally funded PWS , where provisions are made under non-plan budget, and 50% of the cost is recovered at source from GPs covered. But by and large all Gps consider drinking water as a free service, and hence the attention paid to ensure and demand quality of service is minimal. Invariably, PRED has to take up corrective maintenance at some stage or the other, tapping from the plan capital funds (upto 10% is permitted). Recommendations made for O/M cost sharing have not been implemented except for CPWS schemes maintained directly by PRED.

Further, though the provisions of the Gram Panchayat act allow GPs to collect tariff for water supply, it is generally not enforced. These issues need to be addressed at the wider policy level, both politically and administratively.

3.4 Inadequacy of Ground Water Sources:

Excess fluoride, salinity/brackishness and scarcity constitute the main source problems. Further, most of the bores especially in the interior districts of Rayalseema and Telegana fail during summer. Unregulated tapping of ground water for irrigation compounds the problem. PRED is now of the opinion that only the tapping of surface sources (rivers/ reservoirs/irrigation canals) can provide lasting solution to the water supply problems in the state.

3.5 Institutional Memory:

In a generalist department, it is inevitable that specialisation suffers. Skills and capabilities for planning and executing, and more important, for maintaining water supply schemes do not easily get institutionalised. Cumulation of experiences, and learning from one's own and from others' mistakes become difficult. Such lack of specialisation has backward linkages on the quality of work and down stream repercussions on articulation of need for specialisation, in-service learning, improved institutional set up for design, construction, monitoring, O/M, etc.

3.6 Institutionalisation of Integrated Approach:

The integrated approach to water supply and sanitation advocated by the Netherlands Government and by the IDWSSD has now been adopted by the Government of India as the strategy to be adopted for all rural drinking water supply and sanitation programmes. Hence it is critically important that the PRED is equipped with know-how and institutional capabilities for planning, executing, maintaining and monitoring integrated water sanitation projects.

3.7 Institution Development Needs:

PRED is likely to be up against even faster rates of growth than during the eighties. In view of the fact that GOI/GOAP has begun to earmark

50% of all its development funds to rural development, the work load on PRED is certain to increase. Consequently PRED has to recruit more engineers who will swell the present ranks to about 4000. Larger NAP schemes, the ongoing APCER project, UNICEF and NAP sponsored sanitation projects, will also add to the demands made on the department.

The integrated approach will call for more participatory attitudes, work methods and procedures. These in some measure are extraneous to a techno-oriented culture and its rigid hierarchical relationship. PRED also needs to build up a large and professional man power base for especially for managing the water and sanitation sector, where increased specialisation is required, if crucial sector issues are to be addressed meaningfully.

In sum, institutions and procedures have not been reshaped to suit the changed sector reality - from simple borewells to more complex piped water supply systems, from a target oriented and engineering approach to a more community based and holistic strategy, which require specialist skills in planning and execution, and a different approach to O/M.

4. NAP INTERVENTIONS IN AP

The Royal Netherlands Government has been supporting the Government of Andhra Pradesh with bilateral assistance for meeting the targets of the International Drinking Water Supply and Sanitation Decade.

4.1 Objectives of NAP Intervention:

a. To support the GOAP in its efforts to provide protected drinking water to identified problem villages within the frame work and strategies of the IDDWSS.

b. To further enhance the effectiveness of the project through the introduction of an integrated approach involving multiple inputs from various specialist agencies.

c. To support institution development efforts of PRED and other collaborating agencies to equip them to adopt an integrated approach to water and sanitation, at the sector level.

4.2 History of NAP Intervention:

Under Phase I (1979-1990), 201 villages were taken up in 6 districts at an original estimate of Rs.1441.00 lakhs (later revised to Rs.1825.51 lakhs). The schemes are nearing completion and administrative closing report is to be ready in March 1991. During this phase 4 Comprehensive Protected Water Supply Schemes (CPWS) and 50 individual schemes (PWS) have been taken up.
Phase II was taken up from 1988 and is to be completed in March 1993. 288 villages in 4 districts are to be covered through 12 CPWS and 33 PWS schemes. 10000 acres of land are to be irrigated through a Lift

Irrigation scheme. The sanctioned estimate for these second generation projects is Rs.2889.40 lakhs (now being revised to Rs.4238.00 lakhs). Under Phase II, in keeping with the integrated approach recommended by the IDWSSD, and subsequently adopted by GOI, support activities such as community education and participation, health awareness, sanitation, income generation, external water quality monitoring, etc. are being taken up at a sanctioned estimate of Rs.780 lakhs. The estimate for these components is likely to be revised to Rs.900 lakhs.

4.4 Project Coverage:

District	A.P. 1				A.P. 2			
	Vil	CFWS	PWS	Cost	Vil	CFWS	PWS	Cost
Prakasam	155	3	13	1463.70	70	3	31	900.00
Guntur	21	-	21	231.90				
Krishna	6	1	-	43.00				
Kurnool	2	-	2	6.70	64	5	2	950.00
Nalgonda	14	-	11	44.59				
Karimnagar	3	-	3	29.62				
Medak					118	3		840.00
Mahabubnagar(+LI)					36	1		1548.00
8 Districts	201	4	50	1819.51	288	12	33	4238.00

4.5 Population Coverage:

	Ultimate (2012 AD)	Present (1981)
AP 1	7,62,000	4,83,000
AP 2	6,47,000	4,03,000
	14,09,000	8,86,000

4.6 Project Cost:

Water Supply : Phase I + IPM:	1825.51	
Phase II:	4238.00	6063.51
Sanitation:	355.00	
CEP	63.03	
Income Generation (Dairy)	185.31	
Water Quality Monitoring	64.30	
NAP Office	101.81	
HRD Consultancy	3.64	
Other Consultancies	7.22	780.31
GRAND TOTAL		6843.82

It is anticipated that further Rs.300 lakhs would be required for taking up community based support activities to cover all the project villages.

4.7 Third Generation Projects:

4 third generation projects are under various stages of formulation for covering more than 1200 villages/hamlets in four (Nalgonda, Prakasam, Ananthapur and Krishna) districts. The anticipated project cost will be Rs.275 crores, including all cost escalations during the project execution period of 8 to 10 years.

Project Components include:

1. Technical Component: construction of water supply scheme

2. Community Based Support Activities:

   - community participation and health education
   - income generating activities
   - mother and child welfare
   - sanitation

3. Institutional Development:

   - human resources development
   - management information systems
   - strengthening of planning/monitoring/design cell
   - support in developing sustainable and community based operation and maintenance systems

These third generation projects are much more ambitious in nature, both in terms of coverage and costs. Unlike in the two previous projects, the PRED has given considerable attention to the formulation of the project, drawing lessons and experiences from the past. Voluntary organisations and other governmental agencies are being involved right from the outset to ensure that the project has inbuilt provisions for the active involvement of the community and to ensure that the project will indeed go to enhance the quality of life and health standards of the community.

Preliminary proposals for all 4 projects have been presented to RNE through GOI. After discussions with the RNE, it was decided that the Nalgonda Project would be taken up first for more detailed project formulation. Other projects will be taken up for documentation in a phased manner, after the preceding project is grounded. Given the costs of the projects, it was also agreed that each proposal would be reworked as two-phased.

4.8 Significance of NAP Interventions:

In terms of financial inputs and physical coverage, NAP contributions are limited. NAP inputs will probably be no more than 15 to 20% of annual sector investments, given the present RNG resource allocation for the sector.

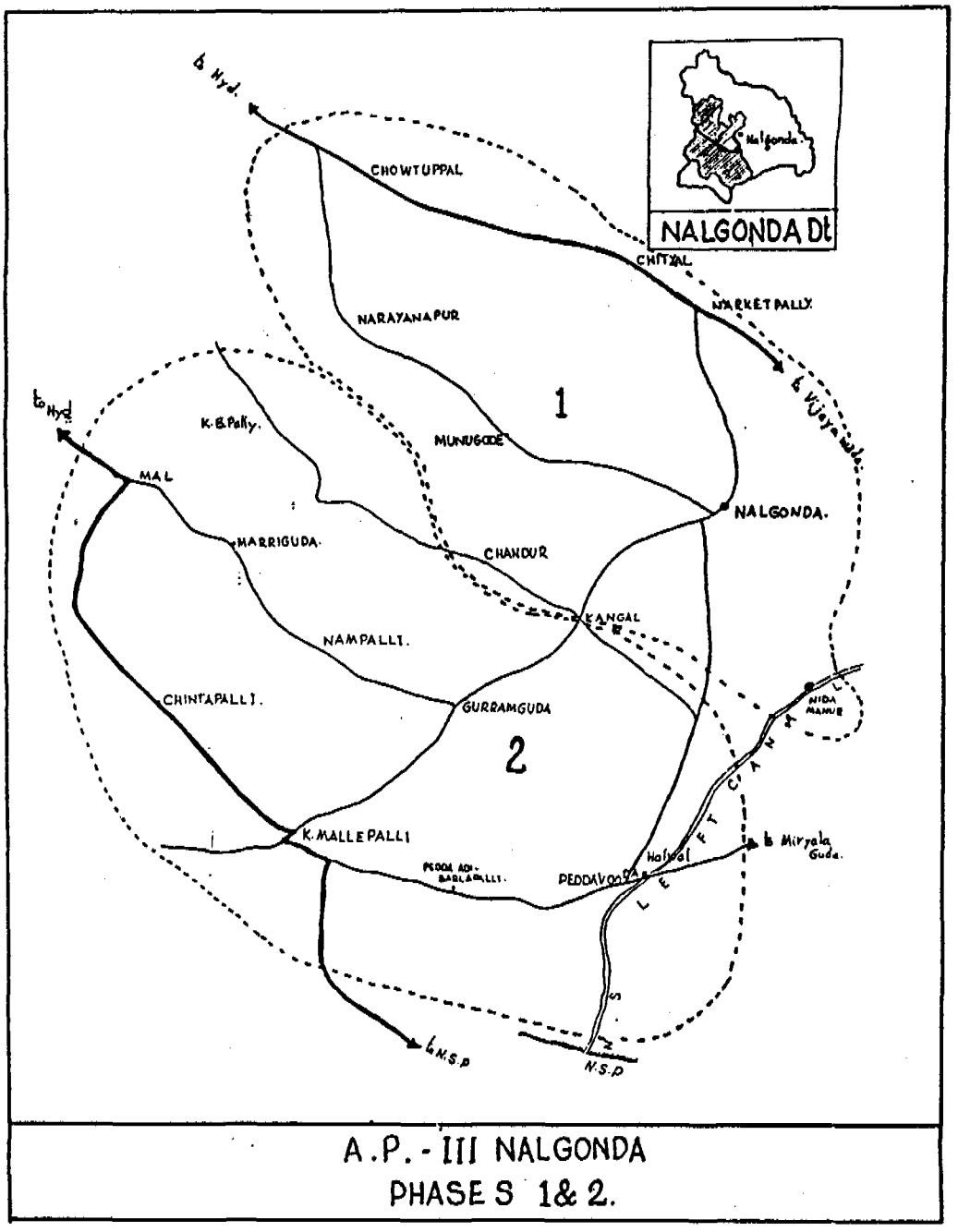
Hence, the contribution of NAP to rws/s sector in AP is to be measured not so much in terms of the capital investments, but more for the new perspectives, capabilities... that NAP has contributed to generate, within the sector. The approach, the areas of intervention, and the interactions themselves are as important as the quantifiable achievements.

4.9 The policy framework for bilateral cooperation for the next 5-10 years is now under preparation outlining the strategies to be adopted for the third generation programs. This project formulation has taken special care to see that the various projects proposed as well as the strategies adopted for their planning, execution, monitoring and coordination are guided by these policy orientations.

4.10 However, while the PRED is to be nodal agency for the integrated approach, it lacks adequate skills and institutions for discharging such responsibilities at the project and sector level. Hence, considerable attention is being given to institution development, primarily within the PRED as the nodal agency. However, it is hoped that further plans evolved will take institution development beyond PRED to other sector agencies involved in water and sanitation: voluntary agencies, peoples organisations at the GP and Mandal level, formal and informal leaders and people's representatives, health and education departments personnel at the ground, grass root workers of women and child welfare department, etc. and even propose effective coordination institutions involving these agencies, at the state and district level.

PART 2

OVERVIEW OF THE NALGONDA PROJECT



A.P. - III NALGONDA
PHASE S 1& 2.

5. NALGONDA PROJECT OUTREACH

5.1 Geographic Data:

Nalgonda district consists of 1141 revenue villages and 1812 hamlets in 59 mandals. The District has a population of 29.40 lakhs, and is spread over an area of 14240 sq.kms.

The district lies in the centre of the State (16-25' and 17-50' of northern latitude and 78-40' and 80-05' of the eastern longitude). The district is bounded on the north by Medak and Warangal Districts, Khammam and Krishna Districts on the east, Guntur and Mahabubnagar Districts on the south and Ranga Reddy District on the west. The altitude varies from 300 to 900 feet above sea level, and the general slope of the district is from West/North-West towards South-East. The total area is 14240 Sq.Kms.

The important rivers in the District are Krishna, Moosi, Alair, Peddavagu and Dindi. The mighty Nagarjuna Sagar Project has been constructed across river Krishna near Nandikonda Village, the Moosi Project across Moosi river, and Dindi Project across Dindi river.

The climate in the District is very hot during the months of April, May, August and September, the temperature rising to as high as 42 degrees celsius. The annual normal rainfall in the District is below average and is only 702 mm. The bulk of the rainfall is received from the south-west monsoon (from June to September), while some rainfall is received also from the north-east monsoon (between October and December). The rainfall from January to May is scanty.

The soil is mainly red soils, which has low moisture retaining capacity, and a small percentage of B.C. soils. The percentage distribution of various types of soils is: black - 9%, chalka - 44%, dubba - 44%, others - 3%.

Nalgonda is underlaid by rocks of peninsular granitic complex. These include granites, gneiss, intrusive dolamites, diorites, veins of quartz and pegmatite. Granites are the most predominant. There are numerous dolomite dykes in the area in 3 directions: East/North West to South East/South West, North to North East, North West to South East.

For meeting domestic and industrial power requirements, power is drawn mainly from the Nagarjuna Sagar Hydro Electric Project. Supply network from this project covers the entire the district.

The Bombay - Vijayawada National Highway No.9 cuts across the district from West to East. Number of state high ways connect the district head quarters. The village roads network is also generally good. The south- central railway also has broad-gauge lines connecting the district to neighbouring districts and with the rest of the country.

5.2 Socio-economic Data:

Discussion on the socio-economic profile of the district has been taken up in the document "Integrated Approach to Netherlands Assisted Project, Rural Water Supply, AP III Programme, Nalgonda"

prepared by Arthik Samatha Mandal, Vijayawada. This document is to be deemed as part of the project background.

The district is one of the most backward in the state with chronic drought problems leading to poor agricultural productivity. The situation is made more complex by the presence of excess fluoride in available ground water sources. Thus scarcity and fluorosis are two main areas to be tackled under drinking water supply programmes.

5.3 Water/Sanitation Scenario:

Till 1983, the responsibility for the execution and maintenance of all rural water supply schemes in the district was vested with one division at Nalgonda. After the territorial system was started in 1983, PRED divisions were set up at each revenue division of all districts. Thus in Nalgonda District, three PR Divisions were set up, at Nalgonda, Miriyalaguda and Bhonghir. These divisions come under the jurisdiction of the Superintending Engineer, Panchayati Raj, Hyderabad.

The depth of water levels in this district vary from 10 to 20 Mts during the summer, and 4 to 6 Mts during rainy season. The water level fluctuation is 6 to 10 Mts in the midslope/hilltops, and between 3 to 4 Mts in the valley floors. The depth of water level in the deeper aquifers is seen to be between 45 to 15 Mts.

Ground water surveys carried out in this District have revealed the occurrence of fluoride rich ground water in certain localities. The fluoride content in water in generally 2 to 3 PPM, and occasionally as high as 8 to 12 PPM.

The problems of drinking water in Nalgonda District are similar to the problems of the State. Here too most of the people (20.2 lakh people out of 22.8 lakhs - 88.6%) live in villages. There are 1147 villages in the district (in 59 mandals) out of which 910 have been identified as problem villages. Upto March 1990, 733 problem villages have been covered with 345 PWS schemes and 9517 bore wells fitted with hand pumps. There are spill over of 177 problem villages, to be covered during the VIII plan. 11 PWS schemes, covering 14 villages of the district had been taken up under AP I.

Since assured surface water sources are rare, ground water is the general source. Wherever fluoride free ground water is struck PWS/MPWS schemes are taken up. But even deep bore wells indicate increasing fluoride content in their yields. When fluoride free sources are not available, defluoridation plants are proposed. Though, indigenous methods are propagated for defluoridation (for example in Nalgonda Technique) they are not popular. Defluoridation plants, designed to supply 180 cubic meters of water per day are being put up under Technology Mission. 17 such schemes are under various stages of progress. Mini defluoridation plants attached to the bore wells are also been taken up. 21 hand pumps defluoridation plants are also functioning or in progress.

Before the introduction of bore wells, open wells were the source of drinking water. But due to continuous drought the bore wells generally do not yield adequate water in summer. After the bore wells started functioning, most of the open wells dried/fell in

disuse. The bore wells sooner or later develop mechanical problems and this is even today a problem in the villages. Thus the scarcity problem remains. In extreme conditions the only source of drinking water is agricultural wells. These are deeper wells and need electricity to pump the water. The problem is the near total power cut in summer. Besides, the villages have to depend on the goodwill of the landlord to take the water from the agricultural villages.

The Nagarjuna Sagar and its left canal has partially solved the problems for the south-eastern parts of the district. But the south-western, central and northern parts of the district continue to suffer from acute shortage of safe drinking water.

6. HISTORY OF THE PROJECT

6.1 A project proposal was submitted to the Netherlands Embassy in 1988, proposing to cover with one comprehensive surface water scheme 172 revenue villages and 281 hamlets in some of the worst affected fluoride/salinity problem villages in 16 mandals. After discussions with the review missions and with NAP Office, it was decided to reformulate the project proposal taking into consideration the strategies recommended by the IDWSSD.

6.2 172 revenue villages were studied at depth through a socio-economic survey, commissioned by the Netherlands Embassy and carried out by the Arthik Samata Mandal during 1990. The survey, while supporting the fact that the project villages identified were indeed fluoride/scarcity problem villages, drew the attention of the department to the fact that some of the known fluoride pockets in Narayanpur, Chityal, Narketpalli mandals had not been covered by the first proposal. The survey also pointed out possible ramifications of not making provisions for enroute villages, which also suffer from scarcity especially during summer season, even though they are covered under ARWS/MNP programmes with PWS/MPWS schemes.

6.3 During subsequent discussions it was decided that the left over fluoride villages within the 16 mandals and the enroute villages will also be proposed under the revised project. However, enroute villages would be considered as clear water augmentation schemes only, the state government taking up the responsibility to improve internal distribution from its own funds.

6.4 Taking into consideration the findings of the survey, and detailed survey of the 16 mandals originally identified for any left over fluoride villages, a revised project proposal has now been finalised. This proposal is to cover 226 revenue villages and 337 hamlets within the jurisdiction of the original 16 mandals.

6.5 Out of the 226 villages, 170 villages have fluoride contents above permissible limits. 56 villages have scarcity/source problems or are enroute. 142 of the 226 villages have some existing PWS/MPWS schemes. But none of them can ensure assured supply to the villages right round the year. The remaining 84 villages have no protected water supply schemes at all.

7. COVERAGE AND PHASING

7.1 The project will cover a 1992 population of 482655, and an ultimate 2022 population of 877370, covering 16 mandals. It is planned to take up the project in two phases, keeping in mind the magnitude of the costs involved. 82 villages and 99 Hamlets are to be covered in Phase I. Of these, 76 villages are fluoride affected villages, 6 are scarcity villages. 144 villages and 238 hamlets will be taken up in Phase II. Of these, 94 are fluoride affected and the balance 50 have scarcity problems.

7.2 Details regarding population coverage are provided below:

Zone	Vil	Hmlts	Population 1981	1992	2022
Phase 1	82	99	174940	225677	408000
Phase 2	144	238	200440	256978	469370
	226	337	375380	482655	877370

In selecting these villages for coverage under the project, existing list of problem villages were considered, grouped into a cluster, and in order to ensure a contiguous and area based approach, villages enroute and surrounding the identified problem villages have also been added to the project coverage. The understanding is that the GOAP will meet the cost in internal distribution/ augmentation to existing schemes.

7.3 Project Time Scheduling:

It is projected that the project can be executed within a period of 6 years (1992-1998). Phase I is planned for 4 years (1992-1996) and phase II for 4 years (1994-1998). There will be an overlap of 2 years between the two phases. A tentative activity flow chart is annexed to this document.

8. PROJECT COMPONENTS/COSTS

8.1 The project components are broadly categorised as:

a) Water Supply Construction

b) Community Based Support Activities

1. Sanitation programme
2. Community Organisation/Health Education
3. Mother and Child Health/Development Project
4. Income Generation for Women:
   - Sericulture
   - Dairying

c) Institution Development Support

1. Human Resources Development (PRED)
2. MIS Development (PRED)

8.2 Total Cost of the Project:

The water supply construction component of the project is estimated to cost Rs.9742.00 lakhs (including all anticipated escalations during the project implementation period of 6 years).

An amount of Rs.1743.729 lakhs is being earmarked for community based and women oriented programmes, complementary to the water supply construction programme: related to sanitation, community participation and health education, income generating activities (dairying and sericulture), women and child development and welfare.

Institution Development Programmes directed primarily towards the PRED and including two components: human resources development, and support for an MIS development for improved monitoring of integrated approach and interagency coordination, etc aim at enhancing the capacity of the PRED to plan, implement and monitor an integrated and participatory approach to water and sanitation, first within the NAP environment, and eventually at the total sector level. The estimated cost of the two components is Rs. 1019.88 lakhs.

COMPONENT	NODAL AGENCY	BUDGET	TIME SCH
Water Supply	PRED	9742.000	6 years
CEP/HEP	NGO (ASM)	96.569	5 years
Sanitation	PRED/ASM	950.000	6 years
Income Gen.(Dairy)	NARMUL	347.000	4.5 years
IG (Sericulture)	SERIFED	151.760	5 years
Mother and Child Dvpnt	ICDS	198.400	4 years
		1743.729	
MIS Development	Consultancy	125.000	4 years
Human Resources Devpt.	PRED(RDTC)	894.880	5 years
		1019.880	
8 components	6 agencies	12505.609	6 years

Resources to be mobilised from AP state developmental agencies such as integrated rural development programmes (70% of all loan components for income generating activities) will also be part of the state government share and will work to approximately Rs.300.00 lakhs, over and above the budget provisions indicated here.

The budget allocation among the three major project components is as follows:

COMPONENT	BUDGET	% OF TOT.COST
Water Supply	9742.000	77.90
Comm based Support	1743.729	13.94
Institution Devpt.	1019.880	8.16

8.3 Cost Sharing:

COMPONENT	BUDGET	GOAP Amount	%	RNG Amount	%
Water Supply	9742.000	1461.30	15	8280.700	85
CEP/HEP	96.569	nil		96.569	100
Sanitation	950.000	237.50	25	712.500	75
Income Gen.(Dairy)	347.000	nil		347.000	100
IG (Sericulture)	151.760	nil		151.760	100
Mother and Child Dvpnt	198.400	nil		198.400	100
MIS Development	125.000	31.25	25	93.750	75
Human Resources Devpt.	894.880	223.72	25	671.160	75
	12505.609	1953.77	16	10551.839	84

Abstract is provided below:

COMPONENT	BUDGET	GOAP Amount	%	RNG Amount	%
Water Supply	9742.000	1461.30	15	8280.700	85
Comm.based Support	1743.729	237.50	14	1506.229	86
Institution Devpt.	1019.880	254.97	25	764.910	75

8.4 Cost of Phase 1:

Since it has been decided to phase the project into 2 stages, the budget requirements for each phase is indicated. Only for the water supply component, the estimate has been prepared specifically for phase 1 and 2. As far as the other project components are concerned, allocation for each phase is based on the anticipated activities and likely expenditures during aa four year period from 1992 to 1994.

COMPONENT	TOTAL COST	STAGE 1 Amount	%	RNG Amount	%	GOAP Amount	%
Water Supply	9742.00	3863.00	40	3283.55	85	579.45	15
Sanitation	950.00	380.00	40	285.00	75	95.00	25
CP and HE	96.57	72.43	75	72.43	100	nil	
Mthr & Child	198.40	119.04	60	119.04	100	nil	
Dairying	347.00	208.20	60	208.20	100	nil	
Sericulture	151.76	91.06	60	91.06	100	nil	
HRD	894.88	536.93	60	402.70	75	134.23	25
MIS	125.00	93.75	75	70.31	75	23.44	25
TOTAL	12505.61	5364.41	43	4532.29	84	832.12	16

8.5 Cost of Phase 2:

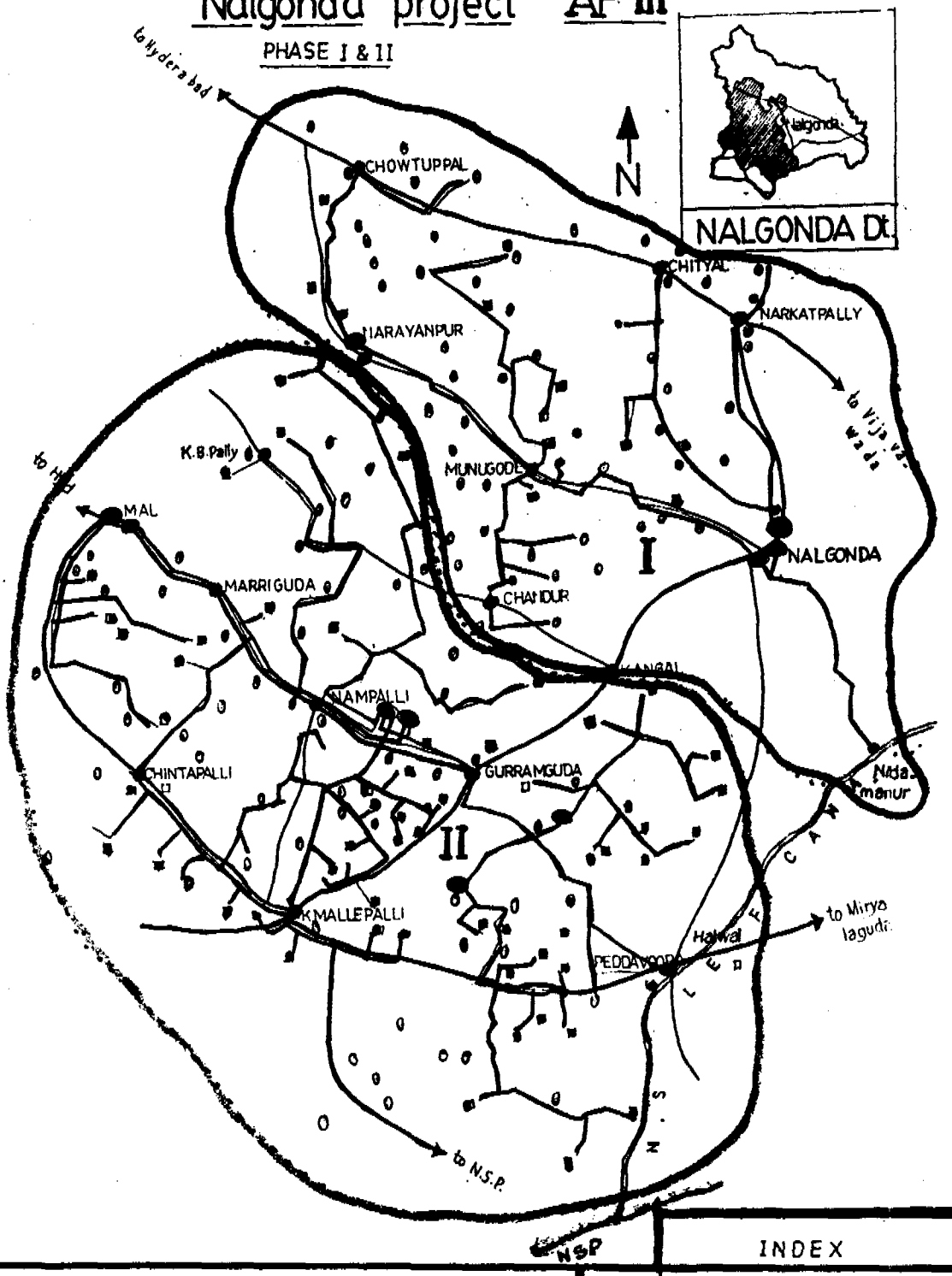
COMPONENT	TOTAL COST	STAGE 2 Amount	%	RNG Amount	%	GOAP Amount	%
Water Supply	9742.00	5879.00	60	4997.15	85	881.85	15
Sanitation	950.00	570.00	60	427.50	75	142.50	25
CP and HE	96.57	24.14	25	24.14	100	nil	
Mthr & Child	198.40	79.36	40	79.36	100	nil	
Dairying	347.00	138.80	40	138.80	100	nil	
Sericulture	151.76	60.70	40	60.70	100	nil	
HRD	894.88	357.95	40	268.46	75	89.49	25
MIS	125.00	31.25	25	23.44	75	7.81	25
TOTAL	12505.61	7141.20	57	6019.55	84	1121.65	16

PART 3

WATER SUPPLY CONSTRUCTION COMPONENT

Nalgonda project AP III

PHASE I & II



KEY DATA							
	FLRDS	SCRCTY	AGRNTS	NEW	HMLTS	POP (92)	POP (2022)
PHASE 1	76	6	54	28	99	225677	408000
PHASE 2	94	50	88	56	238	256978	469370
TOTAL	170	56	142	84	337	482655	877370

INDEX

- PUMPING MAINS
- GRAVITY MAINS
- EXISTING SCHEMES
- NEW SCHEMES
- O.H.B.R
- CPWS TO 82 (V) NIDAMANUR
- CPWS TO 144 (V) ALWAL
- MAJOR ROADS

9. DESIGN PARAMETERS

The Design Parameters for the AP III schemes were finalised after detailed discussions involving Review and Support Missions, NAP Office and PRED. The experiences under operation and maintenance of AP I and construction of AP II were kept in mind in evolving these criteria. Based on these sharing of experiences, guidelines have been issued by PRED for formulation of AP III water supply construction programmes.

9.1 Per Capita Supply: 65 lpcd raw water and 55 lpcd clear water (including provision for 25% house connections, cattle troughs, water for sanitation facilities)

9.2 Design Period: 30 years for all components except pumps which are designed for 15 years

9.3 Distribution: 8 hrs per day with peak load factor of 3

Supply Outlets: Overhead service reservoir for population of 2000 and above and Ground level service reservoir for population below 2000.
Each public standpost to cover an average of 40 households (200 population). All SC & ST localities will be covered and all locations more than 250 mtrs. from any of the proposed supply outlets will be provided extension lines.

9.4 Treatment: Rapid sand filtration and disinfection through chlorination

9.5 Pumping Mains: Designed for 16 hours with 50% stand-by electrical pumps, and generators to take care of power failure/low voltage.

9.6 Clear Water Storage: The storage capacity for clear water sumps is 2 hours, for balancing reservoirs is 30 minutes and for overhead service reservoirs 1/3rd daily capacity for the ultimate population commanded by them.

9.7 Raw Water Storage: In consultation with the irrigation department, the canal closure period has been determined as 45 days. Though water can be drawn directly from the canal for most of the year, summer storage tanks are provided for to ensure adequate raw water during the closure period. Taking the raw water requirement as 65 lpcd, the storage requirement for 45 days with an additional provision of 20% for evaporation (and percolation) losses is determined as 108.84 mcft.

9.8 A critical area addressed during designing is the problem of dependency on electrical energy for pumping. Power supply positions are not likely to improve in the near future, and so even providing separate power lines may not solve the problem. This becomes especially crucial when tail end villages in CPWS schemes have to depend on three or four stage pumping for receiving water. In the design of the scheme, the solutions proposed are: provision of stand by generators/oil pumps, increased capacity of storage and service reservoirs etc. During detailed investigation, the adequacy of the provisions will be further examined, and if necessary additional capacity provided in the balancing reservoirs, or by providing additional storage capacity at the village level, by adding on

ground level clear water sumps near overhead service reservoirs, from which can be filled even by low lift oil pumps.

9.9 The transmission lines will as far as possible follow road alignments, to facilitate easy operation and maintenance. Similarly, staff quarters and office buildings locations are planned keeping in mind O/M requirements.

10. SOURCE

10.1 Some of the streams flowing through the identified 16 mandals are Kangal, Peddavagu, Chandur Vagu. As there is uncertainty of normal rainfall, the flows in these local streams are not perennial. The sand thickness is also very little. Due to continuous drought for the past 10 years, the static water level has gone down below the sandy zones, and even below the weathering zones in some areas of the project.

10.2 Various alternate sources were considered for drawal of raw water:

a. drawal of water directly from Nagarjuna Sagar Project Reservoir (Dam) at Peddamunagal which is at a distance of 38 kms, from Mallepalli was examined. It was not pursued as there were technical and operational difficulties.

b. there are two balancing reservoirs in the alignment of canal from where the water is supplied to Nalgonda and Miryalguda towns. But they are very far from the Project area.

c. to draw water from Dindi Project area. However, this is also far from the project area.

d. to draw water from Pendlipakala tank if it is made as balancing reservoir for the proposed Srisailam Left Bank Canal. But since the commissioning of the SLBC is likely to be delayed, the proposal was not taken up.

e. to draw water from Akkampalli reservoir which is proposed as an impounding reservoir to supply water to Hyderabad city which is to be fed by Nagarjuna Sagar (Dam) Reservoir during flood season. This Project is still under way and may take another 10 years.

So the only option is to draw water from Nagarjuna Sagar Left Canal.

10.3 The SST selected at Alwal village (Ramasamudram Tank) has a maximum capacity of 58.26 mcft., after renovation and improvements. This quantity is adequate for meeting only part of the total requirement. Hence another SST is necessary to take care of the balance demand.

10.4 The Nidamanuru Tank on the right bank of Nagarjuna Sagar Left Canal, presently utilised as SST by the Public Health Department for providing Drinking Water to Nalgonda Town and having a capacity of 110 mcft., has been identified as the second source. Considering 20% evaporation and percolation losses during the canal closure period the available capacity will be 90 mcft. The quantity utilised by the Public Health Department is 40 mcft. As such 50 mcft., is still available in the S.S.Tank. The Public Health

Department has agreed to spare the balance quantity of 50 mcft. of water from Nidamanuru SST.

11. DESIGN

11.1 The basic project design consists of two separate comprehensive protected water supply schemes, one with Nidamanuru and the other with Alwal SST as the source. For both the schemes rapid sand filters are proposed. The Nidamanuru CPWS is to be taken up first (phase 1: 1992-1996), and the Alwal CPWS in phase 2 (1994-1998).

11.2 The coverage is proposed as follows:

Zone	No.of Vills/ Hamlets		Population 1981	1992	2022
Phase One:					
1	22	14	51257	66126	119029
2	60	85	123683	158551	288971
	82	99	174940	225677	408000
Phase Two:					
1	16	19	22305	28774	52082
2	20	27	23936	30879	55891
3	48	81	52726	68018	123265
4	15	26	27100	34959	63277
5	29	35	42583	53440	100634
6	16	50	31790	41008	74221
	144	238	200440	256978	469370
Grand Total:					
Phse1	82	99	174940	225677	408000
Phse2	144	238	200440	256978	469370
	226	337	375380	482655	877370

11.3 Phase 1 (82 villages and 99 hamlets):

50 mcft. of raw water is drawn from N.S.L.C. at Nidamanuru during normal flow period of 320 days by gravity and from SST during Canal Closure period of 45 days through pumping, to Rapid Sand Filters of 22,440 KL capacity.

The Nidamanuru Tank has got the facility of being filled to F.T.L. by N.S. Left Canal water once in 15 days by gravity. Hence the Tank will be filled to F.T.L. just before closure of canal and this water will be sufficient to meet, both Public Health Department's and this Project Phase I demand.

From the Rapid Sand Filters the water is drawn to Clear Water Sump of 468 KL capacity, by gravity.

From the Clear Water Sump the water will be pumped to G.L.S.R at Yerrabally through 700 mm dia PSC Pipes (10 Kms) with the help of 6 nos of 100 HP pump sets and stored at G.L.S.R. Yerrabally of 702 KL capacity.

From Yerrabally G.L.S.R., the water will be drawn to Sump of capacity 2805 K.L. at Rasulguda through 800 mm dia PSC Pipes (10 Kms) by gravity.

From Rasulguda Sump the water will be pumped to Sump at middle of

Kaprallagutta at Nalgonda (12 Kms) through 700 mm dia PSC Pipes with the help of 5 nos of 150 H.P. Pumps.

From the sump at middle of Kaprallagutta, water will be pumped to two O.H.B.Rs at +336.00 M and +356.00 M on the top of Kaprallagutta. The water to B.R.1 at +336.00 M will be pumped through 630 mm dia AC.Cl.15 (0.50 Kms) with 5 nos of 80 H.P.pumps. Water to B.R.2 at +356.00 M will be pumped through 400 mm dia A.C. Cl 15 (0.50 KM) with 4 nos of 60 H.P. pumps.

The water from B.R.1 at +336.00 will be drawn to 60 village towards Munugode, Kompally, Yepur and Chandur. At Kompally water will be stored in 860 K.L. sump and then pumped to Narayanpur O.H.B.R. of 126 K.L. through 450 mm dia pipes (4 km length), and with 400 mm dia A.C. Cl 20 pipes (9.5 Km length) with 4 nos of 80 H.P.pumps. From Narayanpur O.H.B.R., water will be drawn by gravity towards villages in Choutuppal and Gundrampalli.

The water from B.R.2 at +356.00 M of Kaprallagutta will be drawn towards 22 villages in Narkatpally, Nimmani, Buddaram, Appajipet and Chityal through gravity mains.

11.4 Phase 2 (144 villages and 238 hamlets):

Raw water will be drawn directly from Nagarjuna Sagar Left Canal in normal flow period of 320 days to filters of capacity 25850 KL. During canal closure period of 45 days, the required quantity of Raw Water will be drawn to filters from the improved M.I.Tank near Alwal village, used as SST with 58.26 cft. capacity (including 20% losses during 45 days canal closure period). The treated water is collected into a clear water sump of half an hour capacity of 540 KL. The clear water is pumped to a sump well near Chepur village (22 Kms: 800 mm dia PSC Pipes).

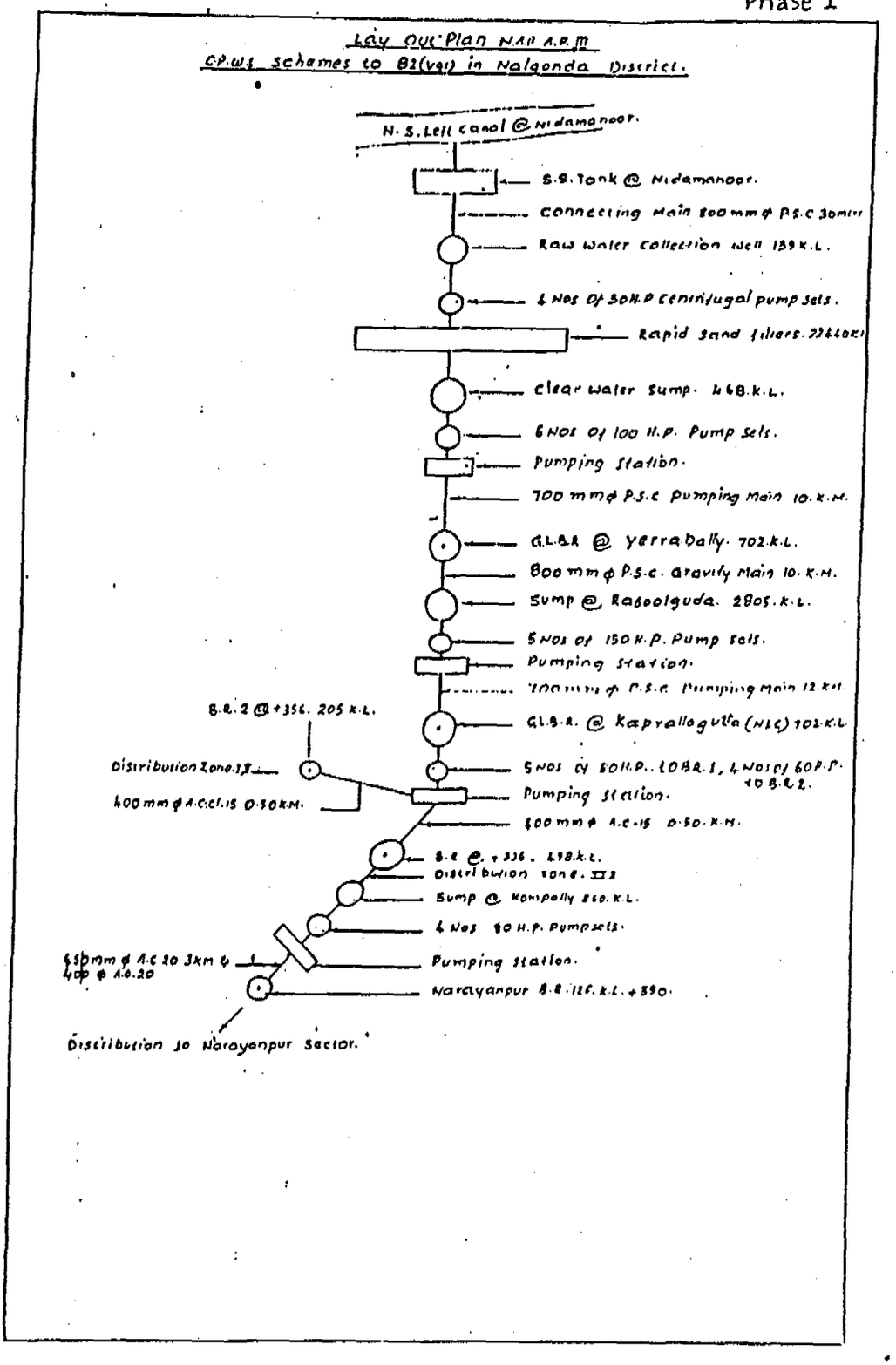
From this point three pumping mains are provided:

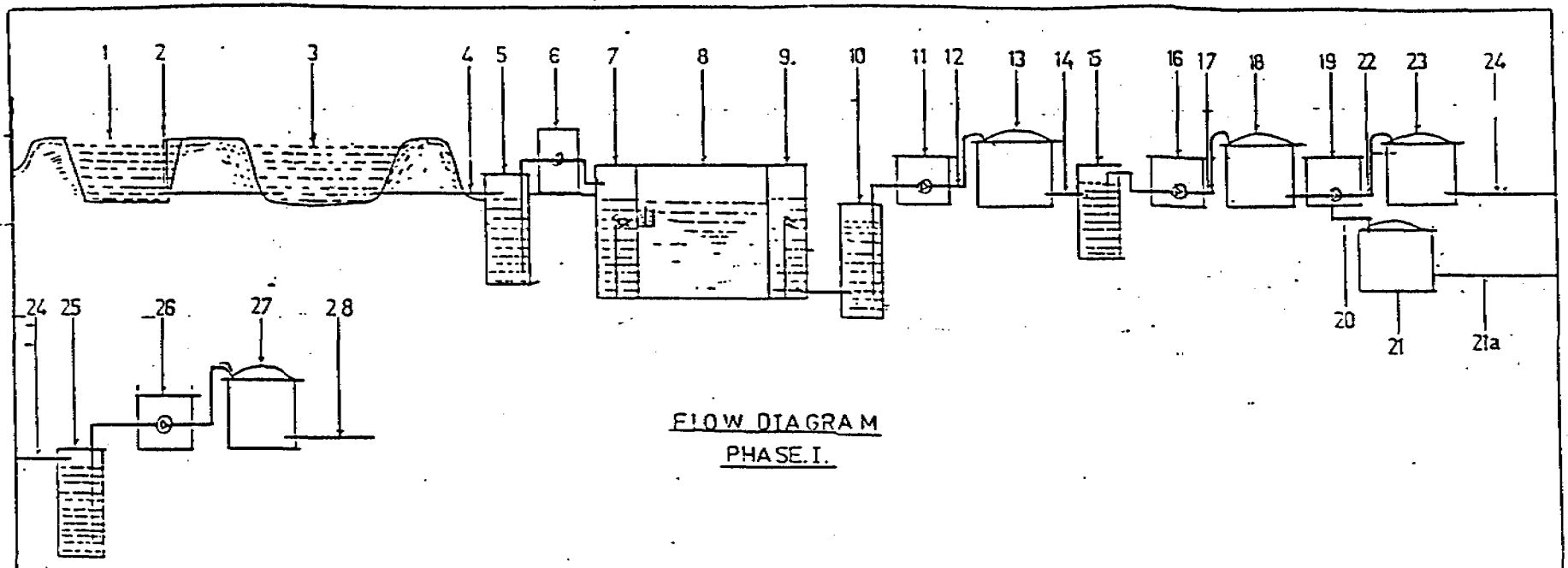
1. to OHBR at mount near Chepur village (1 KM: 300 mm dia AC.Cl 10 pipes) with 30 H.P. Pump Set

2. to OHBR at Kacharam mount (10 Kms.: 350 mm dia A.C. Cl.20 pipes) with 120 HP pump set

3. to Sump at Mahammadapur Hill Junction (20 Kms: 700 mm dia PSC pipes) with 750 H.P. Pump sets

Phase 1


Lay out Plan NAP A.P.M
C.P.W.S. schemes to B2(Vol) in Nalgonda District.
N.S. Left Canal @ Nidamanoor.
S.R. Tank @ Nidamanoor.
Connecting Main 800 mm ϕ P.S.C 30 mtrs
Raw water Collection well 139 K.L.
4 Nos of 30 H.P Centrifugal pump sets.
Rapid Sand filters. 22 Lakhs
Clear water Sump. 468. K.L.
6 Nos of 100 H.P. Pump sets.
Pumping Station.
700 mm ϕ P.S.C Pumping Main 10. K.M.
G.L.S.R @ Yerrabally. 702. K.L.
800 mm ϕ P.S.C. Gravity Main 10. K.M.
Sump @ Rasoolguda. 2805. K.L.
5 Nos of 150 H.P. Pump sets.
Pumping Station.
700 mm ϕ P.S.C Pumping Main 12. K.M.
G.L.S.R. @ Kapvallaguda (NLC) 702. K.L.
B.R. 2 @ +356. 205 K.L.
Distribution Zone. II
400 mm ϕ A.C.Cl.15 0.50 K.M.
5 Nos of 50 H.P. LDBR. 1, 4 Nos of 60 H.P. to B.R. 2.
Pumping Station.
600 mm ϕ A.C.-15 0.50. K.M.
B.R @ +336. 498. K.L.
Distribution Zone. III
Sump @ Kompally 250. K.L.
4 Nos 50 H.P. Pumpsets.
450 mm ϕ A.C 20 3 Km ϕ
400 ϕ A.C. 20
Pumping Station.
Narayanpur B.R. 125. K.L. +390.
Distribution to Narayanpur Sector.



FLOW DIAGRAM
PHASE.I.

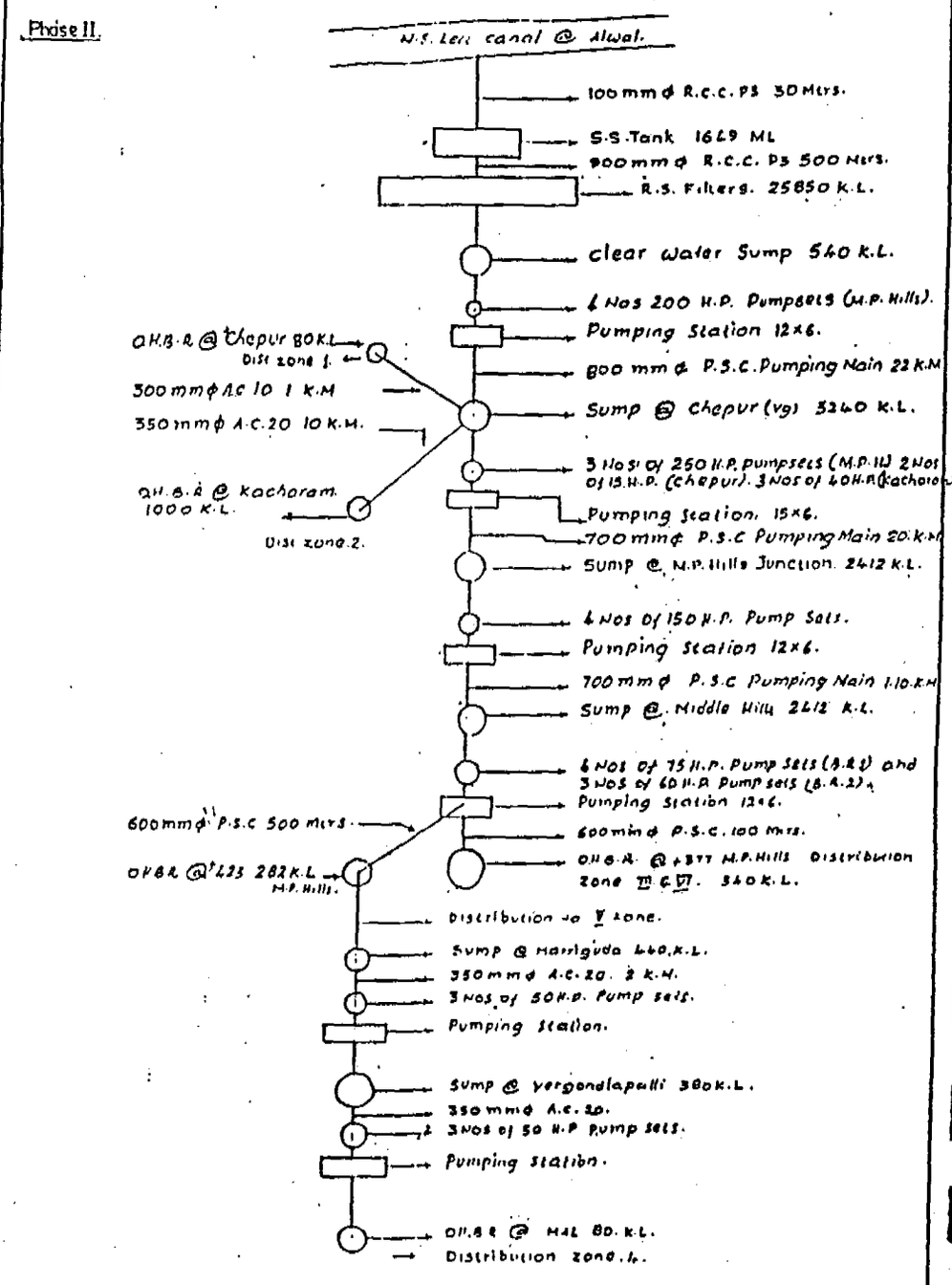
1. Nagarjuna Sagar Left Canal at Nidamanuru.
2. Sluice (offtake point) with screen mesh.
3. S.S. Tank.
4. Connecting Main - 800 mm dia PSC Pipes - 30 m
5. Raw Water Collection Well - 139 KL.
6. Raw Water Low Lifting Pump Sets - 4 Nos -30 HP
7. Inlet weir box.
8. Rapid Sand Filters.
9. Outlet weir box.
10. Clear Water Sump - 468 KL.
11. Clear Water Pump Sets (Cehtrifugal)- 6 Nos - 100 HP.
12. Clear Pumping Main - 700 mm dia PSC Pipes - 10 KMs.
13. G.L.S.R. @ Yerraballi - 702 KL.
14. Clear Water Gravity Main - 800 mm dia PSC Pipes - 10 KMs.
15. Sump at Rasulguda. - 2805 KL.
16. Clear Water Pump Sets (Centrifugal) - 5 Nos - 150 HP
17. Clear Water Pumping Main - 700 mm dia - PSC Pipes - 12 KMs.
18. G.L.S.R. @ Kaprallagutta (Nalgonda) - 702 KL.
19. Clear Water Pump Sets (Centrifugal) - 5 Nos - 80 HP. to B.R.1. 4 Nos of 60 HP to B.R.2.
20. Clear Water Pumping Main 400 mm dia - Ac.Cl.15 pipes - 500 m.
21. Balancing Reservoir on the Hillock (+356.00) - 205 KL.
21.a. Distribution to ZONE.I.
22. Clear Water Pumping Main - 600 mm dia - Ac.Cl.15 pipes - 500 m.
23. Balancing Reservoir on the Hillock (+336.00) - 498 KL.
24. Distribution to ZONE.II.
25. Sump at Kompally - 860 KL.
26. Clear Water Pump Sets (Centrifugal) - 4 Nos - 80 HP.
27. Balancing Reservoir at Narayanpur - 126 KL.
28. Distribution to Narayanpur Sector.

Phase 2

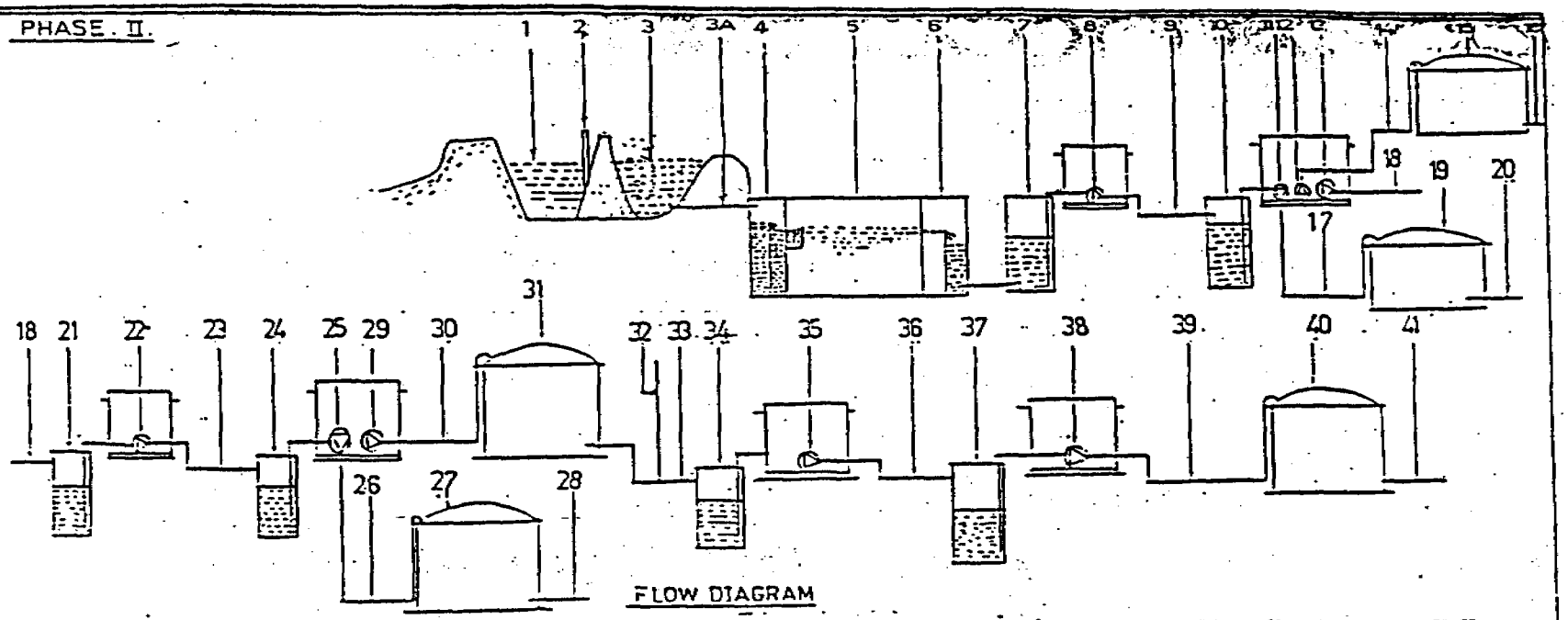
Lay Out Plan.

C.P.W.S. schemes to 144 (nos) in Nalgonda Districts.

Phase II.



PHASE. II.



FLOW DIAGRAM

1. Nagarjuna Sagar Left Canal at Alwal
2. Sluice (offtake point) with screen mesh
3. S.S.Tank - capacity - 1689800 M
3.a. Connecting main - 900 mm dia - 500 Rmt.
4. Inlet weir box
5. Rapid Sand Filters
6. Outlet weir box
7. Clear Water Sump - 540 KL
8. Clear Water Pump Sets(Centrifugal) 4 Nos 200 HP
9. Clear Water Pumping Main - 800 mm dia PSC Pipes - 22 Kms.
10. Sump at Chepur - 3240 KL
11. Clear Water Pump Sets - (Centrifugal) 2 Nos - 15 HP
12. Clear Water Pump Sets -(Centrifugal) 3 Nos - 40 HP
13. Clear Water Pump Sets -(Centrifugal) 4 Nos -150 HP
14. Clear Water Pumping main 350 mm dia Ac.Cl.20 pipes - 10 Kms.
15. OHBR @ Kacharam - 1.00 lakh ltrs.
16. Distribution to Zone.II
17. Clear Water Pumping main - 300 mm dia Ac.Cl.10 pipes - 1 KM.
18. Clear Water Pumping Main 700 mm dia PSC Pipes - 20 KMs.
19. OHBR @ Chepur - 80000 litres.
20. Distribution to ZONE.I.
21. Sump at Mahammadapur Hill Junction - capacity - 2412 KL.
22. Clear Water Pump Sets (Centrifugal) 4 Nos - 150 HP.
23. Clear Water Pumping Main - 700 mm dia PSC Pipes - 1.10 KM.
24. Sump at Middle of the Hillock-2412 KL
25. Clear Water Pump Sets(Centrifugal) 3 Nos - 65 HP.
26. Clear Water Pumping Main - 600 mm dia PSC Pipes - 100 mtrs.
27. Balancing Reservoir on the Hillock (+377.00) - 340 KL
28. Distribution to ZONE.III & VI.
29. Clear Water Pump Sets (Centrifugal) 4 Nos - 75 HP.
30. Clear Water Pumping Main - 600 mm dia PSC Pipes - 500 mtrs.
31. Balancing Reservoir on the Hillock (+423.00) - 282 KL.
32. Distribution to ZONE.V
33. Clear Water Gravity Main.
34. Sump at Marriguda - 440 KL
35. Clear Water Pump Sets (Centrifugal) 3 Nos - 50 HP
36. Clear Water Pumping Main - 350 mm dia Ac.Cl.20 - 2 KMs.
37. Sump at Yerragandlapalli - 380 KL.
38. Clear Water Pump Sets (Centrifugal)- 3 Nos - 50 HP
39. Clear Water Pumping Main - 350 mm dia - Ac.Cr.20 - 8 KM.
40. Balancing Reservoir at Mal - 80000 litres.
41. Distribution to ZONE.IV.

From Mahammadapur foot of the hillock sump well, water is pumped to a sump well half way up the hillock (+350 msl). From this point water is pumped to two OHBRs.

- OHBR at +423 msl: from where the water is taken by gravity to Marriguda Sump (6 Kms: 500 mm dia A.C.Cl.20 pipes and 4.50 Kms: 350 mm dia A.C.Cl.20 pipes, and 9 Kms: 300mm dia A.C.Cl.20 pipes)
- From Marriguda Sump (+365) water is pumped to Yerragandlapally Sump (+450) through 2 Kms: 350 mm dia A.C.Cl.20 pipes with Pump Set of 150 H.P. capacity. From Yerragandlapally Sump water is pumped to G.L.B.R. at Mal village (+527) with 8 Kms: 350 mm dia A.C.Cl.20 pipes.

- OHBR at +377: from where water is taken by gravity to Donipamula & Ghattuppal and Vattikoda, K.Mallepalli, Rollakal etc.

For technical and operational reasons the villages to be covered under phase II are grouped into 6 zones:

1. Zone I (Chepur-16 villages): 4 villages are given water directly from the pumping main from Alwal to Chepur and the remaining 12 village are given water from the OHBR at Chepur mount.

2. Zone II (Kacharam-20 villages): 1 village is given water from the pumping main from Chepur to Kacharam and the remaining 19 villages from OHBR at Kacharam.

3. Zone III (K.Mallepalli-48 villages): All those villages are given water from the gravity main from OHBR on Mahammadapur Hillock (+337.00).

4. Zone IV (Marriguda-15 villages): Of these 4 villages are given water from the pumping main from Marriguda to Mal and remaining 11 villages from GLSR at Mal by Gravity.

5. Zone V (Nampally - 29 villages)

6. Zone VI (Gattuppal - 16 villages)

12. CONSTRUCTION ESTIMATES

12.1 In keeping with the guidelines discussed during Review and Support Mission AP 23, the estimates are based on realistic projection of the standard schedule of rates to 1992 (assuming that the project can take off in 1992). Provisions for price escalations have been made at the rate of 10% per annum for expenditures to be incurred in the subsequent years. 15% provision has been made for meeting tender premia. A further 10% is provided for contingencies. It is anticipated that the project estimates will not require any subsequent revision. Establishment charges (12.5%) are provided.

12.2 In preparing the estimates, the SSRs from 1987-88 to 1990-91 have been projected to 1991-92. Based on this projected SSR, the unit rate for various components has been worked out. The estimates are

worked out on the basis of these unit rates. An abstract of the estimate based on 1991-92 SSR is provided below:

Phase	Component	Estimate (Lakhs)
I	Headworks	153.90
	Pumping mains	633.16
	B.Rs/sumps etc.	315.47
	OHSRs/GLSRs/PSPs/ Gravity mains/Bldgs.	1447.47
		2550.00
	15% tender premia	383.00
		2933.00
II	Headworks	268.24
	Pumping mains	1070.94
	Balancing Resvrs/Sumps	163.15
	OHSRs/GLSRs/PSPs/ Gravity mains	1708.82
	Buildings	38.85
		3250.00
	15% tender premia	488.00
		3738.00

12.3 Expenditure Plan:

Based on annual expenditure plans and providing for 10% escalations on expenditures to be incurred annually, the financial plan for the two phases is:

Phase 1:

Year	Est.92 SSR	Est.prvdg Escls	10% Cntg.	12.5% Estbl.	Total Estimate
1992-93	1800.00	1800.00	180.00	248.00	2228.00
1993-94	600.00	660.00	66.00	90.75	816.75
1994-95	400.00	484.00	48.40	66.55	598.95
1995-96	133.00	177.02	17.70	24.35	219.07
	2933.00	3121.02	312.10	429.65	3862.77
				rounded to	3863.00

Phase II:

Year	Est.92 SSR	Est.prvdg Escls	10% Cntg.	12.5% Estbl.	Total Estimate
1994-95	2500.00	3025.00	302.50	415.94	3743.44
1995-96	800.00	1064.00	106.40	146.30	1316.70
1996-97	300.00	439.23	43.92	60.40	543.54
1997-98	138.00	222.25	22.23	30.56	275.04
	3738.00	4750.48	475.05	653.20	5878.72
				rounded to	5879.00

12.4 Cost sharing is proposed as follows:

PHASE	TOTAL COST	RNG Amount	%	GOAP Amount	%
1	3863.00	3283.55	85	579.45	15
2	5879.00	4997.15	85	881.85	15
TOTAL	9742.00	8280.70	85	1461.30	15

12.5 Enroute Villages:

In order to ensure a contiguous and area based approach, enroute villages already covered under MPWS/TWS schemes are covered under the project. The proposal is to provide clear water augmentation to these schemes, since these schemes were designed with available local water bodies as source. Many such schemes suffer from scarcity problems. And in other cases, where fluoride free ground water has been provided, it is found that over a period of time fluoride levels are rising over the permissible limits. Besides, given the problem of falling ground water table, bore well schemes are becoming less and less reliable as a source especially during the drought period.

Under the project, the trunk mains will be designed to carry water required for the enroute villages as well. The connecting of the trunk mains to the village water supply system and the improvements, augmentation to be provided to the village system will be the responsibility of GOAP. During detailed investigation, the estimates for these works will be taken up and then GOAP will be approached for sanction of funds, so that the improvements can take place along with the main works.

12.6 Detailed Investigations:

Detailed investigations have been started for phase 1. As a policy, key personnel responsible for project execution are to be involved in the investigation of the scheme. This policy has been adopted also Nalgonda. In the meantime, the Department and NAP Office, supported by RSM, are taking up an exercise to document under AP I and II. The findings of the study and its recommendations will be incorporated into the project design during detailed investigation.

PART 4

COMMUNITY BASED SUPPORT ACTIVITIES

As indicated in the draft POLICY FRAMEWORK document, upto 25% of the total cost of the project is set apart for Sanitation, Health Education and Community Participation, Women and Child Welfare activities, and income generation programmes for women (with potential also for their organisation into groups/cooperatives). The allocations for institution development are discussed separately.

13 COMMUNITY PARTICIPATION/HEALTH EDUCATION

This project addresses itself specifically to the issues/strategies related to the involvement and participation of the community, particularly the disadvantaged groups and especially women, in the planning, implementation and maintenance of the water and sanitation projects inputs. The underlying assumption is that such human dimensions can enhance the quality of the interventions as also ensure that the investments can be maintained and utilised to the full to the maximum benefit of the community, its health and quality of life.

Community participation has been given significantly more attention under the third generation projects. In fact this aspect is sought to be integrated into the project right from its planning.

Water supply is not to be considered as a mere amenity. It is a contribution to improved health, as long as this can be linked to environmental, domestic and personal hygiene,sanitation and integrated with several other community needs - income generation, forums for women to articulate.

The responsibility for organising the community for participation in the execution and operation and maintenance of the water supply system, and for front line motivation/ organisation for sanitation activities is entrusted to a voluntary organisation (NGO) by the NAP cell:

Arthik Samatha Mandal
Benz Circle,
VIJAYAWADA 520 006

Society Registration No: 45 of 1978, of 2/3/1978 under the Societies Registration Act of 1860, from the District Registrar, Krishna District, AP

Bank A/C: 6474, Central Bank of India, Benz Circle Branch, Vijayawada 520 006

TCR No: 010260025 fro the Ministry of Home Affairs, Government of India

Chief Functionary: Mr. Veeriah, Secretary.

ASM will operate from a project office at Nalgonda and will have zonal offices covering clusters of 30 to 40 villages each. Theses zonal offices will be set up in a phased manner.

The major task of ASM would be the organisation of village action committees for taking up responsibilities in the areas of O&M and sanitation. Identification and training of village level

care-takers of the water supply system, and cooperating with the PRED for evolving a viable village level O&M system would also be ASM's task. ASM will assist PRED in the siting of public standposts and in motivating people to evolve systems for cost sharing, collecting tariff from private connections etc. Other tasks would be health awareness programmes in schools, taking up of sanitation related activities in the community as well as in schools, cooperating with other agencies in managing income generation activities, mother and child health, etc.

ASM's interventions will dovetail with the construction activities by PRED. As such during the first four years, all the phase I villages will be covered and initial contacts established with all phase II villages.

For continuing activities beyond this 5 year period, ASM would submit a supplementary project proposal, during which the intense interventions will be phased off. After the phasing off period, ASM will carry on token intervention programmes with their own resources/ resources mobilised from district development agencies.

The budget proposal for this component is Rs. 96.569 lakhs. It is anticipated that 75% of the funds would be required during the first phase: Rs. 72.427 lakhs.

13.1 Background information on ASM:

ASM was initiated in 1952 as a body set up under the leadership of Gandhiji's close assosciates. During the cyclone devastation of Krishna District in 1977, this body was registered as an organisation in order to facilitate its interventions in relief, rehabilitation and reconstruction programs for the cyclone victims.

ASM has been involved in various development activities in the districts of Krishna, West Godavari and Nalgonda. The activites focus on non formal education, primary health care, child nutrition/immunisation, drinking water/sanitation, income generating activities such as sericulture, weaving, horticulture, apiculture, social forestry etc. In fact ASM has come with many slow sand filtration tanks (3000 to 6000 litres capacity) to solve drinking water problems in some of the remote villages. ASM is also involved in organisation of Balwadis and in training of Anganwadi/Balwadi workers. The ASM has its head quarters in Vijayawada and field officers in all the four districts, with a full scale training centre at Srikakulam near Vijayawada.

ASM has a total staff of 250 full timers and about 100 part timers drawn from various fields such as community development, health, sericulture, management, administration, etc. Activities are funded by international agencies such as Save the Children Fund, OXFAM, Hope International Development Agency, etc. Within India, funds have been received from CAPART, Central Relief Committee, Science and Technology Department and NAtional Environmental Campaign. At the districts and State level ASM work in close collaboration with Integrated Tribal Development Agency, DRDA, Health Department, ICDS, etc.

In Nalgonda District ASM has a field office at Suriyapet, close to the proposed project villages under NAP. The ASM has launched a tribal development project, the `Asman Tribal Development Project',

covering 25 tribal villages. ASM was also responsible for the conduct of the socio-economic feasible study for the Nalgonda project, preparatory to the formulation of the final technical documents.

13.3 Project Strategy:

Community participation is perceived as promoting peoples' involvement in the planning, implementation and maintenance of water/sanitation program. This will consist of: familiarising the people with the project, helping them to articulate their views, and in organising them for responsible interaction, and responsibility sharing with the PRED, in the construction, maintenance of water/sanitaiton assets. In this process the people will be organised into formal and informal groups and educated also on their rights and responsibilities. Local leadership, particularly from among women, will be identified and trained for interaction with PRED and other participating agencies. All these activities will be supported with health/hygiene education programs and activities.

Care will be taken to ensure that ASM's activites are closely linked up with the Gram Panchayats, involving the Sarpanches and Mahila members.

13.4 Project Components:

a. Mass awareness campaigns in villages to familiarise the people with the project

b. Formation of peoples' organisations (village action committees) involving potential water users, village level functionaries of the government, women leaders, school teachers, the sarpanch and Mahila members of the gram panchayats.

c. Training ang education of formal and informal leaders.

d. Health, Hygiene, Nutrition, Sanitation education among specific sections of the community, such as women, schools, anganwadis, youth groups, etc.

e. Promotion of integrated sanitation program and organisation of the people for participation in actual implementation.

f. Organisation of people and of their leaders to participate in the water supply construction, operation and maintenance, etc.

g. Assisting PRED in evolving financially and institutionally viable arrangements for GP focussed operation and maintenance for water supply.

h. Close interaction with other agencies involved in other development projects, particularly with the ICDS in the organication and management of Anganwadis and Mahila Mandals.

i. Interaction with especially with the health and education departments to promote health, hygiene, nutrition programs in PHCs and School Health Clubs.

j. Participation in planning, coordination, review meetings at various project levels.

k. Contributions to the institutionalisation of the integrated approach.

13.5 Operational Plans:

The project head quarters will be located at Nalgonda, where it will have also a full fledged residential training centre for community leaders, project personnel, women leaders, etc.

The project area is to be divided into 5 zones, each with a sub-office responsible for 40 to 50 villages. At ASM level an exclusive project desk will be set up for monitoring and coordination. In setting up the zones, an area based approach will be adopted, taking care to ensure that ASM interventions correspond with PRED's planning of the water supply construction component. At the village level, a local village animator will be selected and appointed to act as an interface between the project and the community.

13.6 Activities:

1. At Village Level:

General awareness programs, formation and strengthening of peoples' organisations, linkages with existing governemnt functionaries, identification of local leaders, liaison with the GP, Health awareness programs involving PHC/anganwadi, foramtion of school health clubs, involving local artists and groups in promotion programs, discussions with the PRED on water supply/sanitation program, formation of VAC to support GP in responsibility sharing for the water supply/sanitation program, exposing and educating village leaders to the water supply technology. The village animator will be responsible for the mobilisation of the people and for facilitating the cooperation of the village while the Zonal Coordinator will be responsible for the planning and implementation of activities.

2. At the Zonal Level:

Identification of village animators in consultation with the community, organisation and conduct of training programs at zone level for mahila mandals, youth groups, anganwadi workers, GP leaders, school health club leaders, school teachers, village cultural teams, health workers, animators and VAC members. Exposure programs to the water supply technology, and interaction with PRED will also be managed at zone level. The Zonal Coordinators will be responsible for inter-village programs, for coordination with other agencies and for supporting village animators. The Zonal Coordinator will receive administrative and training resource support from the project level.

3. At Project Level:

Project level activites will be oriented towards providing backstopping to the personnel at the zone level. This will include preparation of training modules for zonal level training, preparation and collection of audio-visual

materials/folk media programs, planning and organisation of training for project personnel. The project level personnel will provide also adminstrative support to the zones and liaison with PRED/other agencies at the project level. The principal coordinator will be responsible for these activities with the administrative and resource support of his project team, and guidance from the project desk at ASM.

4. At ASM Level:

At the ASM project desk level in Vijayawada, activites will be directed more towrds planning resource support and expertise to back-up personnel involved in the day to day running of the project at the project level in Nalgonda. Some of these activities are: identification of resource teams/persons for preparation of AV materials, folk media, odentifiaction of suitable training programmes for senior project personnel, policy and administartion support, regular field based reviews, liaison with PRED and other collaborating agencies at the State level. The desk officer will be responsible for these tasks and will report to the Secretary, ASM.

13.7 Institutional Arrangements:

The Secretary, ASM willbe the project holder and will be overall responsible for the program, finance, and reporting. He will be responsible for organising support for field personnel and activities by arranging training/consultancy services. The formulation of operational plans and monitoring of progress will be his responsibility, with the assistance of a full time desk officer.

The project office at Nalgonda will be headed by the principle coordinator who will be responsible for implementation at the project level, including administration and management of personnel. He will be assisted by a team consisting of a media and a training coordinator each and will have the support of administrative staff.

In each of the five zones, there will be a zonal coordinator responsible for implementing all the activities within a cluster of 40 to 50 villages. In each zone there will be a functional zonal office. However the zonal coordinators shall receive all resource support from the project level.

At village level, every animator will look after 2 to 3 villages. Since the person will be selected from one of the villages, she will be available at the village at all times. Her main task would be to assist the zonal coordinator in program implementation by mobilisation of people and by functioning as an interface between project and the village. The animator will also make door to door visits and maintain contacts with village leaders and grass root functionaries.

13.8 Human Resources Development:

Training programmes will be aimed at: project personnel, community leaders/ village level functionaries, peoples organisations at the grass root. While training for the second and third levels will be the responsibilty of the project team, training programmes for

project personnel will be planned and organised through specialised agencies.

Initial orientations will be organised at village level, and at a second level, leaders of village level organisations will be brought together and imparted more intense training at mandal/zone level. In all training programmes participatory approach will be adopted. Orientation of the community to the water supply/sanitation technology and design will also be part of the training schedule.

13.9 Budget for Project Implementation:

HEAD	AMOUNT	
Recurring:		
Salaries	41.648 lakhs	
TA/DA	4.949 lakhs	
Mobility	7.557 lakhs	
Office Overheads	8.682 lakhs	
HRD: Personnel	2.407 lakhs	
HRD: Community	13.686 lakhs	
HRD Infrastructure	4.930 lakhs	
Monitoring/Review	1.345 lakhs	85.204
Non-recurring:		
Vehicles	5.970 lakhs	
Equipments	1.690 lakhs	
Furnishing	1.080 lakhs	
HRD Equipments	1.625 lakhs	
Trng Centre	1.000 lakhs	11.365
TOTAL		96.569

14 SANITATION PROGRAMME

14.1 Present Status:

The physical and financial achievements with the help of programmes discussed above are briefly given under:

Year	Amt Expendt. (in mlns)	Household latrines	Cmmnty latrines	Population covered
84/90	250.87 167.89	146584	1905	7.34

The coverage is about 1.79%. However, given the fact that most of the facilities are unutilized, the effective coverage is less than 1%.

14.2 Perspectives under the VIII Plan:

A State Sanitation Cell has been setup under the control of an officer of the rank of an Executive Engineer. A study has been made

of the sanitation programme being taken up in Gujarat and being implemented by the Gujarat Water Supply and Sewerage Board with the cooperation of voluntary agencies. Based on this study, and experience under Vimukthi programme, a proposal for relaunching the programme is under consideration.

14.3 Action Plan under VIII Plan:

Under VIII Plan it is proposed 10% of the Rural population with sanitation infrastructure facilities. At unit cost of Rs.2000, the total budget requirement would be Rs. 134.60 crores, as against the tentative budget allocation Rs. 25 crores. In actual practice, given the budget constraints and the limitations of the implementing machinery, the targets may be pruned to a much more realistic 3% to 4% of the total population. However with the assistance of UNICEF/RNG, it is proposed to launch area based and intense coverage projects in various districts of the state.

Under UNICEF assistance, between 1991-95, eight districts are to be covered at an estimated cost of Rs. 5 crores. Rs. 4.04 crores is allocated for latrine construction and 0.96 crores for other sanitation activities. UNICEF contribution is anticipated at Rs. 1.90 crores and beneficiary contribution will be Rs. 1.08 crores, the GOAP share RS. 2.02 crores. The physical target 24000 individual latrines and 200 school latrines.

Under phase 2 of the Netherlands Assisted Projects, some 200 villages in six districts are to be covered with a project outlay of Rs. 3.55 crores. The funding pattern is RNG - Rs. 2.67 crores, GOAP - Rs.0.88 crores and people/GP Rs. 0.71 crores. The components will include household and institutional latrines, domestic sanitation, health/hygiene/nutrition education, sanitation around water supply and environmental sanitation for the whole village.

Under the third generation NAP projects, all villages covered under water supply are to be provided also sanitation facilities. The budget allocation for the Nalgonda is Rs. 12.22 crores, RNG contribution being Rs. 7.12 crores, GOAP share Rs. 2.38 crores and people/GP contribution Rs.2.72 crores.

These sum total of activities is to be coordinated at the community level by the NGO. PRED will provide financial, technical and administrative backstopping, dove-tailing such support with front-line motivation/organisation work.

14.4 Sanitation Component under AP II:

1. Pilot Effort:

Sanitation activities constitute one of the components under NAP, with an initial budget allocation from the Royal Netherlands Government of Rs. 286.60 lakhs. Subsequently, the budget was revised to Rs. 266.72 lakhs. A pilot programme was launched first to test the validity of the assumptions on which the project was drawn up.

This pilot project was evaluated by NAP Office and based on its findings and conclusions, it was decided that the project concepts, design, estimates and operational plans required substantial modifications, from a target and construction

oriented specialist activity, to a multi-faceted and community based development intervention.

2. Programme under AP 2:

Accepting those recommendations, GOAP had issued an order for relaunching the programme, pooling an additionality of 25% from the Vimukthi Programme (Rs.88.28 lakhs) to the funds made available by the RNG (Rs.266.72 lakhs), raising the total bilateral funds to Rs. 355 lakhs for AP I & II villages. The Panchayati Raj Engineering Department functions as the nodal agency for the planning, execution and monitoring of the programme and for mobilising the support of NGOs and gram panchayats, school and health authorities, and above all of the communities themselves.

14.5 Concept of Sanitation:

Sanitation is essentially a preventive and promotive health care intervention. Since health is very much linked with water, good management of water supply and sanitation around water shall receive focussed attention.

The project is concerned with improved knowledge, attitudes and practices with regard to personal, domestic and environmental sanitation/hygiene and water management. Sanitation has to do with "the way of life" of individuals, families and communities and has to come to gripe with very personal and intimate habits and life styles which are tradition bound and culturally conditioned.

14.6 Objectives:

The immediate focus shall be on provision of facilities that attract positive community reactions to the project, since they respond to immediately felt needs:

a. privacy and safety especially for women.
b. convenience especially for women, children and old/sick people
c. personal and domestic cleanliness
d. reduced morbidity of children

While the immediate response shall provide an entry point the sanitation program shall proceed beyond, to a wide range of heath related objectives, equipping the community with knowledge, skills and organisations for accepting and discharging their responsibilities for the health of their villages, homes and people:

a. to protect drinking water sources outlets from contamination.
b. to promote hygienic water collection, storage and use
c. to promote domestic and environmental sanitation
d. to safeguard people's health by preventing water-borne diseases
e. to generate community action to promote village health/hygiene conditions
f. to inculcate civic sense and social responsibilities in the community.
g. to integrate health/hygiene/sanitation into the village development planning/resource allocation by the GP.

14.7 Strategies:

Promotional Activities (ASM): This is seen as the most critical and frontline activity, to be taken up by the voluntary organisations in close cooperation with the gram panchayats, PHCs, anganwadis and schools.

Technical and Administrative Support (PRED): It is important that support services dovetail with frontline organisation work so that generated demand can be responded to without delay.

14.8 Project Approach:

1. Intense Coverage:

Activities will concentrate on selected villages and aim at taking up a large number of sanitation activities involving at least 60% (based on experiences under AP II) of the households and covering facilities such as water supply, educational and health institutions, environmental sanitation, etc.

2. Area Based:

In selecting households within a village or villages within a mandal, a contiguous area approach shall be adopted to ensure sustainability and spread of project concepts and strategies.

3. Integration:

Efforts will be taken to dovetail sanitation program with preventive health care, immunisation, Mother and Child Health, Anganwadi, School Health, Jawahar Rozgar Yojana, social forestry, kitchen gardening, non conventional energy programs, improved maintenance of water supply, etc.

4. Decentralized Community Approach:

The gram panchayats and particularly the sarpanch and women members shall play an active role. However to ensure wider community participation, under the auspices of the GP, a Village Action Committee shall be formed involving especially the women.

Available local masons shall be identified and trained to take up construction activities. Their involvement will also facilitate promotion of the concept and technology and long term sustainability, apart from creating income generating activities. Wherever possible women will be identified and trained as masons. They have the added advantage of having direct access to women, who are our main target group.

5. Orientation towards Women:

Especially in areas related to personal and domestic hygiene, women shall be the critical target group, as they play very crucial role in education and socialization of children, and are traditionally the custodians of water and domestic hygiene and health/hygiene especially of children. Audio-visuals and training modules will have special focus on women. Sanitation activities shall also be directed to respond in the first

place to the felt needs of women. Applications for smokeless chullas, household latrines, etc. shall be received only from women.

6. Construction of Complete Units:

All construction activities will aim at the construction of the total unit and good finish so that the participating group will have a sense of pride in owning the asset and hence will be motivated to maintain it. As far as institutional latrines are concerned provision of assured water supply shall be compulsory.

7. Cost Sharing:

No construction activity will be taken up without down payments from the participating families and GPs.

8. Sustainability and Replicability:

Care is taken to ensure that the strategies and designs/estimates are replicable. Efforts will also be consciously made to institutionalize the experiences gained during the project, both within NGOs and PRED. For this inter agency workshops and training programs at sector level will be planned and organised, involving also agencies from other projects/states.

14.9 Institutions for Coordination and Monitoring:

1. Village level: village action committee (VAC) along with gram panchayat, school teachers, village level functionaries of PHCs and other governmental institutions, and of the PRED. The nodal agency will be ASM.

2. Project Level: Project Coordination Committee, involving ASM, PRED, ICDS, Mandal level Officers of Health, Education, Rural Development Departments. The nodal officer will be the Executive Engineer.

3. District Level: District Project Committee, involving ASM, ICDS, District Health Officer, Executive Engineers of PRED, District Education Officer, NARMUL, SERIFED and other collaborating agencies. The nodal officer will be Superintending Engineer.

4. State Level: Review meetings with collaborating agencies chaired by the Chief Engineer.

The responsibilities of these coordinating cells will include reviews, monitoring of progress, easing of constraints and bottlenecks, recommending necessary modifications/additions to this manual, and project evaluation leading to the development of strategies for sustainability and replication at the sector level.

The methodology for such exercises shall be, as far as possible, participatory - involving the village leaders, women, school health clubs, VAC/GP.

14.10 Sanitation Components:

Construction Activities:

1. At household level:

   Household latrine, soak pit, bathing cubicle, smokeless chulla, compost pits for solid waste disposal, hygienic cattle sheds

2. At institution level:

   Toilet/urinal units with assured water supply for schools, and Anganwadis, bathing cubicles in PHCs, garbage disposal pits, soak pits, revival/improvement of existing facilities

3. At the village level:

   Open drains/environmental sanitation, soak pits, social forestry, compost/garbage pits, protection of traditional water sources, sanitation around water supply, vector/fly control measures, other village specific sanitation programmes

Promotional Activities: participatory training/planning, mass contact programs at village level, health/hygiene/nutrition education for women, youth, school children, health/hygiene education for VAC, GP, school teachers, health workers, anganwadi workers,school health clubs,
school to village and child to child programs, door to door campaigns, involvement of health workers/teachers, exposure programmes, demonstration programmes, shramdhans.

Training/Exposure Programs: Leaders of various groups, members of the GP/VAC, school teachers/ anganwadi workers, leaders of school health clubs, village masons (men and women), participating families, project personnel, village animators, mandal level seminars for formal leaders/officials.

Support to Preventive/Promotive Health Care: Support for organisation of MCH programs, organisation of immunisation programs, nutrition education, promotion of kitchen gardens

Activities around Water Supply: Planning/execution/maintenance of sanitation around water supply outlets, community monitoring of quality/regularity of water supply, community involvement in prevention of wastage of water and vandalism, organisation of water awareness programs, including proper collection, storage and use of water

14.11 Outreach:

In principle, the targeted outreach of the project is 226 villages and 337 hamlets in the district of Nalgonda, which will be provided with protected water supply under NAP-AP III. However, given the intense coverage/area based approach, it may not be feasible to cover more than 60% of the households in 50% of these villages.

14.12 Selection Criteria:

Criteria for identification of a target village shall be:

- adequate availability of water
- confidence expressed by the NGO that community interest and participation can be generated
- contiguous areas
- preliminary appraisal by PRED of the technical feasibility

ASM will then organise intense promotional activities in the villages that are identified for initiating the intervention efforts. PRED will closely collaborate in these promotional activities.

Selection of Households: GPs selected for the sanitation program shall call for applications from individual households for participating in the domestic sanitation programme. The GP shall also organise these applications into clusters of 20 to 25 participants, and indicate priority to be accorded to the clusters.

Selection of Schools/Anganwadis/PHCs:Only institutions within the selected project villages will be considered for the programme.

Application shall be forwarded to the PRED by the heads of the organisations. The application shall also contain an undertaking to maintain the assets created.

14.13 Technology/Designs/Costs

Household Toilets: UNICEF type design will be adopted - two pit pour flush water sealed latrine.

Institutional Latrines:

a. School Latrine: Technology adopted is the same as for household latrines. Water supply will be assured through the provision of cisterns with connections to the water supply system. If this is not feasible, borewell is to be provided. The number of cubicles/ urinals could be determined as per actual requirements. Soak pit and garbage disposal pits will also form part of the sanitation package.

b. PHCs: Depending on the requirement, an individual latrine or a modification of the school latrine with provision for a bathing cubicles. Water supply connection will be provided.

c. Anganwadis: An individual latrine with suitable modifications for children is to be provided. Water supply connection will be provided. In addition a slopping platform with soakpit is to be provided for bathing/washing children.

Estimated Costs:

The Individual Latrine is estimated to cost Rs. 1950, the School unit Rs.18,000, the anganwadi unit Rs.5000 and the PHC unit Rs.12000. A lump sum provision is made of Rs. 1.00 lakh per village/hamlet for environmental sanitation. An annual escalation of 10% is provided with the base year as 1992.

Environmental Sanitation: For taking up of environmental sanitation activities like side drains, garbage disposal pits, soak pits, etc., the GP should approach the EE with the proposal to share 50% cost from out of funds allotted to it under JRY. For the estimating and

designing will be as per the norms of JRY and will have a strong labour component.

14.14 Cost Sharing at Village Level:

The following norms shall be adopted for beneficiary contributions:

Household Latrines: Down payment in cash along with the application to the Gram Panchayat.

SC & ST:	Rs.100.00
All others:	Rs.400.00

The responsibility for excavation, whitewashing of superstructure, site levelling, providing of water container/bucket/mug/soap dish and brush shall be with each applicant. Cost over and above the sanctioned amount for each stage of work shall also be met by her.

School Sanitation: Along with the application, the school authorities shall indicate funds mobilised for maintenance, through the school health club, as follows:

Schools with strength upto 200:	Rs.200.00
Schools with strength of 200 - 500	Rs.400.00
Schools with strength above 500	Rs.600.00

Further the school shall contribute voluntary labour during the construction phase.

Environmental Sanitation: While making application GP shall also enclose a resolution to share 50% of the estimated cost for taking up environmental sanitation. Once the master plan is approved and technical sanction is provided for the estimate, the GP shall deposit this amount with the PRED.

Other Components of Domestic Sanitation Programme: The cost shall be met by the households except subsidies as available under NEDCAP for smokeless chullas. Further an incentive of Rs. 50/- shall be paid to every SC/ST household taking up all the domestic sanitation facilities.

14.15 Budget:

The budget estimate for this program is as follows:

RNG Funds:	Rs. 712.50 lakhs
GOAP & People Funds:	Rs. 237.50 lakhs
TOTAL	Rs. 950.00 lakhs

An additionality of about 25% may be expected in the form down payments by families/GPs. Apart from these funds, activities such as smokeless chulas and social forestry will be funded by the concerned agencies. PRED will take overall responsibility for dovetailing such activities with this sanitation programme.

ASM has indicated separately budget requirements for promotional and

organisational activities/training (except technical) programmes, under the community participation component.

Budget allocation will be directed to respond fully to demand generated from as many project villages as possible. A cluster of 20 to 25 villages will be selected at a time (grouped into batches of 5, as per guidelines discussed under Selection Criteria), and the entire range of programmes/activities will be taken up, aiming at saturation coverage. This process will be replicated till the project resources are exhausted. It is tentatively programmed to cover/initiate work in 150 villages/hamlets by June 1996.

a. Household Latrines:

- 1992 population: 482655
- number of households at 6 persons/house: 80442
- 35% coverage of half project households: 14077 or say 14000

b. Anganwadi Sanitation Units: 150
c. School Latrines in app.50% project villages: 250
d. Sanitary Units in PHCs: 50
e. Environmental Sanitation in Vllgs/hmlts 250

Abetract is provided below:

Component	PHASE 1		PHASE 2		TOTAL	
	Trgt	Costs	Trgts	Costs	Trgts	Cost
Hshld Tlts	7000	182.49	7000	233.24	14000	415.74
Anganwadi	70	4.74	80	6.58	150	11.32
Schools	100	25.18	150	46.13	250	71.31
Health Cntr	25	4.08	25	5.01	50	9.09
Environment	100	137.61	150	257.28	250	394.89
TOTAL		354.10		548.25		902.35

14.16 Cost Sharing between RNG and GOAP/People

PHASE	Cnstrctn Acty RNG/GOAP	Trng/Overhds RNG/GOAP	TOTAL RNG/GOAP
I	354.10	25.90	380.00
II	548.25	21.75	570.00
TOTAL	902.35	47.65	950.00

Cost sharing patterns discussed are based on present perception of community demand. As and when the programme picks up momentum, the percentages may be hiked up.

14.17 Project Period:

The project is broken up into two phases. Since most of the villages will be receiving the water only by 1995/1996, bulk of the construction activities can start only from 1994/95. However since both under phase I and II, there are villages with existing water supply schemes (augmentation component), sanitation activities can

be initiated in these villages, while promotion activities will be taken up in villages to be provided with water supply for the first time.

Given these circumstances the effective project period will be 1993 to 2000, covering more or less a six year period. Phase I will be covering the period 1992 to 1996, with promotional activities being initiated from 1992 and construction activities from 1993. As the project moves forward and more and more of the project activities are being implemented, the construction activities will gather momentum. The tentative plan of action and expenditure plan are provided.

14.18 Administration/Management:

Nodal Role of PRED:

PRED shall be the project manager at project, district and state levels. The programme will be planned, implemented and monitored under the overall technical, financial and administrative control and accountability of the Engineer-in-Chief.

Within the guidelines formulated and approved, the Superintending Engineer and the Executive Engineer will have the project responsibilities at district and project level respectively.

The activities of the various participating agencies will be coordinated by these nodal officers through the various institutional arrangements already discussed.

The separate plans and estimates for various components shall be compiled together in the master plan, which shall be discussed in the PCC before technical sanction is accorded.

14.19 Accounting and Reporting:

The EE shall open an account for the purpose of the sanitation project, into which both the releases from the department and contributions from the community shall be credited. Norms for incurring and booking of expenditure shall de decided by PRED in such a way that while financial codes are adhered to, the need to respond to a community based and low cost intervention effort is not vitiated by time consuming and complicated procedures.

On a quarterly basis, the EE will forward physical and financial progress reports to the E-n-C, who will consolidate them and forward to RNE through GOAP for claiming reimbursement. Copy of the statement and claim will be forwarded to NAP Office.

14.20 Monitoring/Evaluation:

Sanitation is essentially a people's movement and action for health. Construction activities by themselves would contribute only partially, as the provision of some necessary infrastructure. More important are the tasks related to organising and educating people, especially women and children, empowering and equipping them with knowledge, skills, institutions and backup services, to take the responsibility for sustaining the processes set in motion and for widening them out to other areas related to their health and

This demands that the project should have good interface between water, sanitation, health, peoples aspirations and perceptions.

Hence the need to constantly monitor the processes and dynamics that the project sets in motion and assess them for their:

adequacy
appropriateness
impact
sustainability
replicability.

The areas to be covered under monitoring/evaluation shall be the following:

- actual response/anticipated demand
- impact of promotional efforts
- impact of participatory training/planning
- efficiency of construction management
- level of functioning of services
- degree of utilisation of services
- health benefits
- sustainability of the dynamics
- replicability of the strategies

However, assessment will be planned and organised by the project team and involving the VAC/GP. This is to ensure that monitoring/evaluation is directly linked to action.

15. MOTHER AND CHILD WELFARE/DEVELOPMENT PROGRAMME

This component will be implemented by the Director, Women and Child Welfare, who is responsible for the Integrated Child Development Services (ICDS) which functions under the Health Department of GOAP.

The nodal points at the village level would be:the Mahila Mandal and the Anganwadi. ICDS has set up nearly 150 anganwadi centres (pre-schools) in the project area of Nalgonda. The centres are managed by an anganwadi worker and her helper, under the supervision of the mahila mandal. The activities include: day-care, nutrition programmes for children, immunisation programmes, peri- natal care, referral services to primary health centres. Support and coordination for villages level activities are provided by the district level ICDS staff headed by the Project Officer, the Community Development Programme Officer and Extension Supervisors at the Mandal levels. The programme has close liaison with the primary health centres.

The components of the proposed project include:

- at anganwadi level: provision of permanent shelters for anganwadi (sanitation facility and assured drinking water are taken up under sanitation component), provision of toys and education material

- at mahila mandali level: initiating village based income generating activities, health education programmes, immunisation/ peri-natal care involving the PHC

- intense care for grade III & IV under-nourished children. Preventive and curative care include supply of special enriched locally available food (milk/ eggs/fruits) and referral service to PHCs.

The project envisages mobilisation additional project staff for taking up intense activities in the project area, headed by a Woman Development Officer, with some extension staff. The project will also dovetail its activities with the health department, mother and child welfare directorate, district rural development agency, etc.

The cost of the proposal works out to Rs. 198.400 lakhs for a four year period.

15.1 Background to ICDS Involvement:

The department of Women's Development and Child Welfare has been invited by the Netherlands Assisted Projects Office to take up programmes for women and children that could be interlinked with the other activities being entrusted to various specialist agencies, both governmental and voluntary.

While formulating schemes and programmes for women and children, the view taken is that such programmes cannot be formulated in isolation from other existing programmes for women and children. Efforts have been made to avoid duplication of programmes and for only filling up the critical gaps with NAP assistance.

ICDS (Integrated Child Development Service) launched in 1975, is now a broad-based programme, covering 141 blocks out of 330 blocks in the state of Andhra Pradesh. Infrastructure and services already being provided under ICDS will be the base on which the components for strengthening of the mother and child oriented programmes with the proposed NAP assistance are to be built up. Available infrastructure, staff and monitoring systems, with a few additionalities under NAP, would be able to launch the new components.

The additional activities proposed under NAP include: organisation of mahila mandals as pivotal to the running of the anganwadis, construction of Anganwadi/health sub-centre buildings, Income Generating Activities for women, improved facilities for pre-school education, supplementary nutrition programmes for severly malnourished children,and additional medical and health inputs, improved linkages with the primary health centres, etc. Since ICDS is a nation wide service and since Government of India is now concerned with expanding the minimum package of services to cover all the blocks in the Country during Eighth Five Year Plan, it would not be possible for Government of India to provide these additional inputs. At the same time the inputs now proposed can not only serve to improve the health delivery to mothers and children, but also serve as a model of Improved ICDS Packages.

15.2 Background to ICDS in AP:

National Policy for Children has laid emphasis on integrated delivery of early childhood services and services for expectant and nursing women.
Government of India started the ICDS Scheme on an experimental basis in 33 blocks in the country in the year 1975-76. As far as Andhra Pradesh is concerned, ICDS today covers 141 blocks, serving around 15, lakh beneficiaries. GOI assists 132 of these blocks and the remaining 9 are fully funded by the State Government.

15.3 The objectives of ICDS:

a) to improve the nutrition and health status of children in the age group Ø-6 years;

b) to lay the foundations for proper psychological, physical and social development of the child;

c) to reduce the incidence of mortality, morbidity, malnutrition and school drop-out;

d) to achieve effective coordinated policy and its implementation amongst the various departments to promote child development;

e) to enhance the capability of the mother to look after the normal health and nutrtional needs of the child through proper nutrtion and health education.

15.4 ICDS Units:

The administrative unit for an ICDS Project is the community development blocks in rural areas, tribal development blocks in predominantly tribal areas and wards or slums in urban areas.

Population Coverage under ICDS: While the demographic and other characteristics may differ from one project area to another, the following general assumptions can be made for a rural project: it will cover generally a community development block with an average population of 1 lakh of which 17% (17,ØØØ) will be less than 6 years of age, 3% (3,ØØØ) will be of less than 1 year, 6% (6,ØØØ) will be in the age group of 1-2 years, and 8% (8,ØØØ) will be in the age group of 3-5. The number of women in the age group 15-44 years will be 2Ø,ØØØ of which 4,ØØØ will be nursing and expectant mothers. The number of villages in a rural project is assumed to be 1ØØ, each with an average population of 1ØØØ. Thus on an average, each rural ICDS will have 1ØØ anganwadis, one per village.

15.5 Organisational Set Up of ICDS:

At the VILLAGE LEVEL, the anganwadi centre is the focal point for delivering ICDS services. As discussed earlier, there will generally be one Anganwadi Centre per 1ØØØ population in rural and urban areas and one per 7ØØ population in tribal areas. The Anganwadi Centre is staffed by a locally-recruited women Worker (Anganwadi Worker) and a woman Helper. The Anganwadi Worker is a part-time honorary worker paid between Rs.225/- and Rs.275/- per month depending on educational qualifications.

At the CIRCLE LEVEL, the work of the anganwadi workers is supervised

by Supervisors who also guide and help them. Each rural, urban and tribal project has five, four and three Supervisors respectively. They are responsible for supervising the working of Anganwadi Centres through regular field visits, helping Anganwadi Workers in developing community contacts. They function as a liaison between the Anganwadi Workers under their supervision and the Child Development Project Officer. They assist the Child Development Project Officer in his tasks of project administration and implementation by periodicaly checking the records, registers, cash and accounts, stock and material at each Anganwadi Centre.

At the PROJECT LEVEL, a full time Child Development Project Officer is appointed for implementation of the ICDS programme in each project area. The CDPO is directly incharge of the scheme and is responsible for administering and implementing the scheme at the field level. The CDPO, as the leader and the coordinator of the ICDS team, supervises and guides the work of Supervisors and Anganwadi Workers through periodical field visits and staff meeting. She makes the necessary arrangements for obtaining, transporting, storing and distributing various supplies. The CDPO maintains liaison with block staff, PHC/health staff and other project level functionaries and organisations. She also acts as the convenor or secretary of the block/project level coordination committee. She makes efforts for obtaining local community's involvement and participation in implementing ICDS programme. She is responsible for periodical reports to concerned higher officials.

At the DISTRICT LEVEL, the Collector is responsible for coordination. Where ever the districts are having 5 or more ICDS Projects, District ICDS Cells are being set up, headed by a Programme Officer of the cadre of Assistant Director in the department.

At the STATE LEVEL, the Secretary to Government and the Director of Women's Development and Child Welfare Department as the nodal authority have overall responsibility for ICDS.

15.6 ICDS in Nalgonda:

In Nalgonda District, at present there are 4 ICDS Projects:

PROJECT	POPULATION	ELIGIBLE WMN/CHLDRN	ANGANWADIS
1. Mothukur	135152	10346	124
2. Devarakonda	144632	3333	156
3. Peddavoora	142424	17510	157
4. Chintapally	115353	12835	112
	537561	44024	549

All these four projects are within the proposed AP III project area. The villages/anganwadis within each ICDS project that fall under the project area are as follows:

1. Mothukur - 1 anganwadi
2. Devarakonda - 32 anganwadis
3. Peddavoora - 11 anganwadis
4. Chintapally - 95 anganwadis

Making provisions for anganwadis that may be adjacent to the project villages but covering the project population, the total number of anganwadis to be covered under the project is estimated to be 150.

Out of these 150 anganwadis, 18 have sub-centres of the primary health centres operating in the same village. The project proposes to provide permanent structures at these 18 places for housing both the anganwadi and the sub-centre within the same building. The ICDS management in the district is under 1 programme officer and 5 CDPOs.

15.7 Interventions Proposed Under NAP:

a) Construction of Permanent Structures for Anganwadis/Health sub-centres: Since the anganwadi centre is the focal point for all ICDS activities at the village level, the facilities available and the location of the centre become critically important. Since ICDS does not have provision for construction of permanent buildings, invariably the anganwadi centres are located in rented premises, which are not often spacious enough or well ventilated and do not have adequate space for pre-school, storage of food, conducting of meetings and open space for children. Similarly, most of the health sub-centres are also located in rented buildings.

It is proposed to construct permanent buildings for anganwadis and health sub-centres under the NAP project. Sub-centres will be taken up only in those villages where anganwadis exist. Wherever a sub-centre and an anganwadi operate together in one village, it is proposed to provide one permanent structure for housing both the anganwadi and the sub-centre. Wherever only anganwadis exist, they will be provided with permanent structures.

ICDS has identified 18 villages which have both anganwadis and health sub-centres, and 132 villages which have only anganwadis. Hence it is proposed to construct 18 anganwadi cum sub-centre buildings and 132 anganwadi buildings under the project.

The Panchayati Raj Engineering Department will extend assured drinking water supply connection and sanitary facilities, from budgets allocated under the sanitation component of the project. The land for construction of the centres is to be provided by the community/gram panchayat free of cost.

b) Strengthening Pre-school Education:

Pre-school Education is a very crucial component of the package of services under ICDS, as it seeks to lay the foundation for proper physical, psychological, cognitive and social development of the child. Non-formal education is to be imparted at the anganwadi centre to children in the age group 3 to 6.

Play and education materials and equipment used in Anganwadi for non-formal pre-school activities should be of indigenous origin, designed and made by the Anganwadi Workers or local artisans, and inexpensive.

In the training curriculum for anganwadi workers, preparation of educational material for pre-schools is included and a budget of Rs.100/- per Anganwadi Worker is provided for the preparation of such educational kits, which include pictures, charts, education and play materials etc. But in reality, the Anganwadi Workers can make only very insufficient number of kits which cannot cater to the full needs of the children. Her tendency is more to preserve the two to three sets available with her for record purpose, than to place them at the disposal of children for free play. There is a felt demand is for a good number of sets, so that, even if a few are kept for samples, the others can be actually used.

c) Supplementary Nutrition programme for Severely Mal-nourished Children:

Malnutrition among children is the single largest contributor to high rate of infant and child mortality and morbidity. Protein energy malnutrition is widely prevalent and a recent survey conducted by the National Nutrition Monitoring Bureau (1981) has revealed that about 85% of the pre-school children have body weights below 75% of the normal weight for their age. Of these, 5% suffer from severe malnutrition, 5 to 10% have Vitamin 'A' deficiency and run the risk of possible blindness, 40-60% pre-school children are anaemic. 25-30% expectant mothers suffer from nutritional anaemia particularly in the last trimester of pregnancy. Low birth weight is also associated with poor maternal nutrition. It has grave consequences in terms of higher rates of peri- natal mortality, and morbidity during the early years of the child's life.

The factors responsible for malnutrition are poverty, prevailing ignorance and prejudices in making the best use of locally available foods, and repeated infections and worm infestation, diarrhoeal and respiratory diseases. Hence supplementary Nutrition and nutrition education are important components of the package of services in ICDS.

ICDS has a supplementary nutrition programme for children. However, it is proposed to provide further nutrition inputs to severely Malnourished children/pregnant and lactating mothers under the NAP component. On an average it is estimated that 10 children/mothers will require such nutrition support.

The nutrition input could consist of milk/egg/fresh vegetables/fruits which are locally available. The beneficiaries to be covered under the scheme will be identified by the Anganwadi worker with the assistance of the Auxiliary Nurse-Midwife and the Medical Officer of the PHC.

15.8 Strengthening of Mahila Mandals and Organisation of Income Generating Activities for Women:

For ICDS, Community Participation is an inbuilt concept. It is necessary for strengthening ICDS qualitatively, and for generating awareness. The nodal point for eliciting community participation is the Mahila Mandal. The recruitment of local staff also contribute to enhanced community participation.

To encourage close collaboration between the Anganawadid Centre and the Mahila Mandal, a one-time grant of Rs.1,000/- is being given to each of those Mahila Mandals which actively assist the Anganwadi Worker in achieving pre-specified service coverage levels. The Mahila Mandals will have freedom to use this money for a variety of worth while purposes but would be encouraged to purchase equipments, materials, books necessary for nutrition and health activities.

However, this amount is not sufficient if the members of the Mahila Mandals want to take up income generation activities on a substantial basis. It is proposed to provide additional funds under the project to encourage Mahila Mandals to take up supplementary income generation programmes at the village level, focussing on the anganwadi as a meeting point.

15.9 Referrals of Severely Mal-nourished Children and Critically ill Mothers to Primary Health Centres:

In view of the limited medical and health services/infrastructure available at the Anganwadi/sub-centre level, referral services have to be provided by the Anganwadi Worker for cases of very sick pregnant and lactating mothers and children of 0-6 years.

In order to strengthen the hands of the field functionaries for more effective referral services, it is proposed to set up a "REFERRAL FUND", to be managed by the CDPO at the project level. In consultation with the anganwadi worker, Mahila Mandal and the voluntary organisation, the money is to be utilised for transport and medicine for patients requiring Emergency Referral Services.

15.10 Improved Linkages with the Primary Health Centre and Sub-centre:

In 1977, the Government of India launched a Rural Health Scheme, based on the principle of "Placing people's Health in People's Hands". It is a 3-tier system of Health Care Delivery, based on the recommendations of the Shrivastav Committee (1975). Close on the heels of these recommendations, the Alma Ata Declaration (1978) set the goal of 'Health for All by the year 2000'. The Ministry of Health and Family Welfare has evolved a National Health Policy under which, it is sought to establish primary Health Care services to reach the population even in the remotest areas of the Country, so that the goals of Health for all by 2000 A.D. can be met.

To achieve the above mentioned objective the SUB-CENTRES are established in the Primary Health Care delivery system. The Sub-Centre is the Peripheral outpost of the existing Health delivery system in rural areas. The Government of India have taken up the establishment of sub-centres and Primary Health Centres under the Minimum Needs Programme.

The official goal is now to establish one Sub-Centre for every 5,000 population, and for every 3,000 population in the hilly, tribal and backward areas.

Each sub-centre is to have one Male and One Female Health Worker. They provide mainly MCH care, and Immunization Services in addition to Family Planning services. Their work is supervised by Male and Female Health Assistants. According to the revised norm one female Health Assistant will supervise the work of 6 female Health Workers. In rural Health Scheme, these Workers are also referred to as

Multipurpose Workers (MPWS).

ICDS has recognised the critical requirement of health inputs and sanitation/hygiene for the overall growth of the child. While schemes for adolescent girls for discouraging early marriage are being taken up with the assistance of UNICEF, the need for improved health services has to be further looked into. As such the proposal for the construction of Sub-Centre alongwith the Anganwadi centre. This will ensure better coordination with the health centre staff. It is expected that the location of the Sub-Centre close to the Anganwadi will give fillip to Immunization programmes for children and perinatal care for mothers.

15.11 Institutional Development Support to ICDS:

Under this component the project will take up the following activities:

a) Training programmes for Anganwadi workers
b) Training programmes for Supervisory Staff
c) Coordination involving ICDS/Health Department/Voluntary agency
d) Additional incentives to Anganwadi workers

15.12 Infrastructure Support to ICDS:

Under this component the project will support ICDS for setting up an exclusive project implementation/monitoring unit at the district level, staffed by a Woman Project Officer, who reports directly to the Programme Officer. She is to be provided with adequate support staff and infrastructure/mobility.

15.13 Operational Plans:

a) Construction of Anganwadi Centres (150): the cost of Anganwadi Building has been provisionally worked out at Rs.60,000/-. Sufficient floor space for running the classes, Supplementary Nutrition Programme and for storage of food and materials will be made.

b) Construction of Anganwadi cum sub-centre Building (18): the cost of such buildings has been provisionally worked out at Rs.1,50000/-. It consists of one examination room, Clinic and the anganwadi facilities as discussed above.

Since PRED is to provide water supply and sanitation, tapping the budget provisions under the sanitation component, the cost for such infrastructure is not included in the present estimates.

c) Strengthening Pre-school Education Activities: basing on Workshop recommendations conducted in July, 1990, by Women's Development and Child Welfare Department for strengthening of the pre-school education component, it was decided that the pre-school education-aids kit must contain the items from among the 4 areas of Psychomotor Development; Cognitive Development; Social and Emotional Development.

It is proposed to supply education materials/play items to further improve the Pre-school Education Kit in each Anganwadi

Centre with an estimated cost of Rs.3,000/- for first year and Rs.500/- per year for the remaining three years. The NAP input under this component would be Rs.4500/- per Anganwadi centre.

d) Special Nutrition Programme: it is proposed to supply fruits/eggs/milk/fresh vegetables, as are seasonally available, to severely malnourished children (Grade III & IV) and critically ill mothers. At an average of 10 beneficiaries per anganwadi, 1500 children/mothers are to be covered under the programme. At the rate of Rs.1.20 per beneficiary per day, the annual cost of the component would be Rs.6.570 lakhs.

The programme will be managed by the anganwadi worker under the supervision of a village committee in which the Mahila mandal, the health sub-centre and the voluntary agency are represented. The Mahila Mandal and the Voluntary Agency could together plan the programme, ensuring as far as possible, long term sustainability by linking the programme with income generating activities.

e) Health Referral Services to PHC: only the emergency referral cases are brought in the fold of this Scheme. The case can be referred by the Anganwadi Worker either to PHC, and, if she is aware that adequate facilities are not available in PHCs, to Taluq Hospital/District Hospitals. The Medical Officer of the PHC will impart training to Anganwadi Worker in detection of the high risk pregnant and lactating women and children of 0-6 years.

At the Anganwadi Centre, the Anganwadi Worker will take help of ANM for detection of the emergency cases. For very severe cases, the Anganwadi Worker will follow the patient to referral hospital, admit the patient and then return. For such visits she wil be paid TA & DA as per normal ICDS rules. The list of such emergencies have been listed by ICDS.

An amount of Rs.2000/- per annum is to be made available for each anganwadi centre for such referral services. The amount is to be kept with CDPO, who will release funds to the anganwadis as per requirement. The CDPO will be responsible for administering the funds. She has to maintain the accounts systematically in a separate account book.

f) Mahila Mandali Level: Each Mahila Mandal is to consist of at least 20 members, organised and supported by the Anganawadi Worker. In the past, Mahila Mandali Members have tended to be women from well-to-do segments of the village. However, in the project areas, Anganwadi Workers would encourage participation of women whose children are the prime targets for ICDS.

Government currently operates a programme called 'Development of Women and Children in Rural Areas' (DWCRA) as part of the national Integrated Rural Development Programme (IRDP). Under the DWCRA programme, 30 Mahila Mandals in each block are provided with a grant of Rs.15,000/- to be used as a revolving fund to give loans to members for individual or group income generating activities.

ICDS will modify the DWCRA approach to the extent that revolving capital would be released in two instalments and not at one time, so that finance can go to the deserving Mandalis only, after assessing their activities closely. Among the functioning Mahila Mandals, about 3/4th may be in a position to activate their members for income generating activities. These groups may be encouraged to develop specific proposals for approval.

Selected Mahila Mandals would be given an initial grant of Rs.4,000/-. It is estimated that about 120 Mahila Mandals will benefit from the scheme. The budget requirement would be Rs.4.800 lakhs. Of the Mahila Mandals who have initiated income generating activities, it is expected that about 3/4th would be able to expand their activities further, for which an additional grant of Rs.15,000/- would be given as revolving fund. About 90 Mahila Mandals would avail of the second grant. The budget for this works out to Rs.13.60 lakhs.

g) Skill Development for Mahila Mandalis: upgradation of the existing skills and training the members of the Mahila Mandals in a new skill are both envisaged. Since A.P.Women's Cooperative Finance Corporation is running District Level Training in vocational trades in department's own Complexes in the District Head- quarters, the Department will take the responsibility for identifying women Instructors and getting the members trained.

Since the training has to be imparted at the level of the Anganwadi Centre and since the Project also envisages the construction of Anganwadi Centres, the income generation activity can take place in the Anganwadi Centre itself, after the pre- school activity. At the rate of Rs.400/-per instructor per month, the budget requirement would be Rs.5.76 lakhs.

h) Training of Anganwadi Workers: anganwadi Workers undergo a job course training for a period of 3 months. They will be given refresher training also once in two years. The Helpers will undergo 8 days training. It is, however, proposed that specific training programmes on community health, water, sanitation, etc. be organised under the project. It is proposed to organise at least one training programme every year under NAP, involving anganwadi workers and their supervisory staff. Each batch would consist of 30 trainees and there will be 6 batches per year. The resource persons will consist of trainers from ICDS, experts in community development/ community health/pre-school education, child psychology etc. At the rate of Rs.250/- per trainee the total cost of training per annum works out to Rs.45000/-, and including cost of resource materials etc, the annual budget for inservice training is estimated at Rs.50000/-.

15.14 Infrastructure/Personnel:

At Village Level: it is proposed to pay an additional honorarium of Rs.50/- per month per Anganwadi Worker, and Rs.15/- per month per Helper to look after the additional activities proposed under NAP: Income Generating Activities, Infrastructure facilities to Anganwadi, Pre- School Education etc. At Rs.65/-per month per

anganwadi, the annual budget under this component would be Rs.1.170 lakhs.

At District Level: the District ICDS Cell is headed by a Programme Officer of the cadre of Assistant Director in the Women's Development and Child Welfare Department. She monitors and reviews the activities of all the blocks in the district, holds periodic reviews and meetings, coordinates with the other concerned departmental officers. Under Netherlands Assisted Project, it is proposed to strengthen the District ICDS Cell with a woman Development Officer, with a small support staff.

15.15 Project Organisation/Time Schedule:

At the State Level, the Director, Women's Development and Child Welfare Department, will have the overall responsibility for the implementation of NAP Programme. The Project period will cover 4 years i.e. starting from the financial year 1992-93 to 1995-96.

It is proposed to construct the buildings in a phased manner. But the other activities proposed under NAP assistance will be started in all the Anganwadi Centres in the first year itself, as the Anganwadi Centres are already functioning.

15.16 Project Monitoring:

The main components will be: progress reports from the Anganwadi Worker to the CDPO through Supervisors; quarterly progress report from the Supervisor to the CDPO; monthly and quarterly progress reports from the CDPO to the State Government with copies to the concerned district officials.

As far as the Netherlands Assisted Project is concerned, the Woman Project Officer will consolidate the reports from the CDPOs and will present monthly and quarterly reports to the Director who in turn will furnish them to the Netherlands Assisted Projects Office. Monitoring formats will be finalised later. The Project Officer and the Woman Development Officer will participate in all district level reviews organised by NAP. At the State level, the project will be represented by the Director.

Separate accounts will be maintained by the Project Officer, the Woman Development Officer, CDPOs, and Anganwadi Workers. As far as income generating activities are concerned, the NGO will be provided with funds by the CDPOs who will also obtain statement of accounts from them and consolidate these into their reports.

15.17 Role of ASM:

The emphasis on women particularly as a target group is a recent phenomenon, and the preparatory activities that are required to make these target group ready require the participation of non-governmental organisations, in addition to the efforts of the official machinary. Already one ICDS Project is being run in the State of Andhra Pradesh by an NGO and similarly all the Anganwadi Training Centres are being run by Voluntary Organisations at present, unlike in many other States.

Under the NAP project, in the project areas ASM can be involved in the following activities:

Organisation of Mahila Mandals

- Initiating income generating activities for women
- Ensuring community participation in the anganwadi programme
- Ensuring participation by especially the needy women, through such strategies as house to house visit, Grama Sabhas, through banners, posters, through programmes like folk songs.
- Supporting the anganwadi worker in taking up health education programmes, immunization programmes, supplementary nutrition programmes, training programmes for women, leadership development programmes, etc.
- Ensuring community involvement in the construction of the anganwadi centre

15.18 Budget:

1.	Construction of Buildings	Rs.117.282
2.	Strengthening Pre-School	Rs. 6.375
3.	Income Generation	Rs. 24.060
4.	Supplementary Nutrition	Rs. 22.995
5.	Referral Fund	Rs. 10.500
6.	Training	Rs. 2.000
7.	Salaries	Rs. 4.914
8.	Incentives/Anganwadi Staff	Rs. 4.095
9.	Establishment Costs	Rs. 3.879
10.	Vehicle, Furniture/Equipments	Rs. 2.300
	Total	Rs.198.400

It is anticipated that Rs. 79.36 lakhs (40%) of the budget will be spent during phase 1.

16. INCOME GENERATION FOR WOMEN - DAIRYING

80 All Women Dairy Cooperatives are to be organised by the Nalgonda/ Ranga Reddy Districts Milk Producers Union (NARMUL). 6400 women already involved in dairying will be provided organisational, technical, managerial and extension support to enhance their income from rearing milch animals. In addition 1600 women belonging to the economically weaker sections will be inducted for the first time into main stream dairying.

The activity is to be the responsibility of the NARMUL, who are in turn to coordinate with the Animal Husbandry Department, the District Rural Development Agency, the district Lead Bank etc to enhance the scope of the intervention.

Project components include: take off support to primary cooperatives at the village level, demonstration programmes for improved cattle feeding, infrastructure support for animal health care, artificial insemination services, green and dry fodder development etc. For

the economically weaker sections additional components such as seed capital for loan facilities, community fodder farms etc are proposed.

NARMUL is to set up a project office in Nalgonda and existing milk routes will be expanded to cover the project villages. The milk will be procured and processed in the existing 3 milk chilling plants within the project area.

The Nalgonda dairy scheme will cost Rs.347.00 lakhs for a 4.5 year intervention. It is anticipated that 60% of the funds would be required during the first stage, that is Rs. 208.200 lakhs

16.1 Background Information on NARMUL:

The milkshed comprising of Nalgonda-Rangareddy Districts has been set up under Operation Flood II, in 1981. The two districts ,ocated aroThe population is 38.6 lakhs out of which 86% is the rural population in about 1200 villages. The milch animal population in the two districts is 5.92 lakhs, out of which 51.6% is white cattle and 48.4% black cattle.

The Nalgonda/Rangareddy Milk Producer Cooperative Union Ltd. (NARMUL) covers both the districts of Nalgonda and Rangareddy. RR District has 3 milk chilling centres and Nalgonda District 6. Out of of the 6 centres in Nalgonda, 3 centres - Chityal, Nalgonda, Mallepally - are within the areas to be covered under AP III. The NARMUL was formally registerd in 1987. It has a total staff strength of 291 and an annual turnover of Rs.5.23 crores (1989 - 1990). NARMUL has also one Feed Mixing Plant (FMP) and one Training Centre (TC), as part of its infrastructure. The NARMUL has its administrative office at Hyderabad.

The Union has enrolled 28,822 farmers as members, besides 3,975 milk producers are supplying the milk through Milk Producers Associations. This include 2194 women members in 28 All Women Societies set up under the Ford Foundation Project. It is contemplated to register only AWDCS in future. Only women members will be registered and existing milk producers associations will be converted and registered as All Women Dairy Cooperatives (AWDCs). Further NARMUL will actively support the formation of Mahila Mandal in all the villages where AWDCs are organised/to be organised. why?

16.2 Background to NARMUL's Involvement in NAP:

NARMUL has been invited by the Netherlands Assisted Projects Office, Hyderabad to participating in the proposed Integrated Rural Water Supply Programme. NARMUL is to take up the organisation of AWDCs in 80 of the project villages.

While formulating this Project Document, NARMUL had extensive discussions with the Prakasam District Milk Producers Union (PDCMPU) and the Netherlands Assisted Projects Office. The experiences NARMUL has had in implementing the Ford Foundation funded All Women Dairy Project also has been drawn upon.

16.3 Project Concept:

The project is envisaged as multifaceted, looking into areas such

as: take off support to AWDCs, support programmes for regular members, induction of new members into dairying, etc. Managerial support is to extended to the NARMUL for organising the technical and extension services. In addition, the NARMUL is to mobilise resources from the Animal Husbandary Department, the District Rural Development Agency, etc. to enhance the scope of the project to areas such as improved cattle breed, enhanced milk production, animal health coverage, fodder development, etc. Human resources development, both for the project personnel and for the members/staff of the AWDCs, is also to receive considerable attention.

Special care has been taken to ensure that the programme does not remain only a techno-economic activity. Emphasis is placed equally on the human, community and social dimensions. Sustainability of the programme has also received special attention. Dovetailing of the programme with the activities to be initiated by the other agencies, especially PRED and the voluntary organisation, has received explicit attention.

16.4 Scope of the Project:

The immediate objective is to provide support to a minimum of 5200 women in 80 villages to derive direct benefits from milch cattle rearing. Further a minimum of 1600 economically weaker section women are to be inducted for the first time into main stream of dairying.

The long term objective of the project is to ensure the sustainability and profitability of dairying in the drought prone project areas of Nalgonda area, by identifying the micro level gaps in dairy infrastructure, animal health care, breed improvement programmes, availability of fodder etc., and by evolving strategies/programmes to bridge these gaps.

Since the project villages are low milk production areas, dairying activities and related support programmes cannot take off and become sustainable unless an initial fillip is provided. Primary Cooperatives need to be supported during the initial phase. Similarly, milk producers should be educated through demonstration programmes to improved feed, cattle/calf care, breed improvement etc. The animal health care/veterinary and AI service infrastructure particularly in the villages fallin under the Mallepply chilling centre are under-developed. These should be strengthened through catalysing efforts. Only such long term measures can ensure that dairy infrastructure will continue to serve the economically backward areas of Mallepally, Mal, Chitiyal, Elkatta etc. after project interventions are phased out.

16.5 Project Cost:

The budget is grouped under six main heads:

a) Project costs under infrastructure and management support to the societies at micro level.

b) Project costs for direct support to members either already engaged in Dairying or newly inducted in the form of subsidies for cattle and calf feed, loan facilities, insurance cover.

c) Project costs under Macro level infrastructure development for

animal health and improved cattle breed development.

d) Project costs for green and dry fodder procurement/develoment at beneficiary and society level.

e) Macro level inputs at union level in terms of project management and human resources development team, including their mobility and office infrastructure.

f) Human Resources Development, both for the project team and for the women members of the Dairy cooperatives.

An abstract of the project estimate (in lakhs) is provided below:

1.	Infrastructure/mngmnt spprt to AWDCs:		36.510
2.	Support programmes for members		
	a) For regular members	91.026	
	b) For EWS	97.676	
	c) Risk Fund	6.640	195.342
3.	Animal health/breed improvement:		
	a) Animal health	5.100	
	b) Breed improvement	7.582	12.682
4.	Green/dry fodder Component:		
	a) Fodder/fertiliser Minikits	4.800	
	b) Community Fodder Plots	21.675	
	c) Revolving Fund/dry fodder	13.600	
	d) Pasture Development	6.760	46.835
5.	Union Level Infrastructure/personnel:		
	a) Salaries/personnel	20.433	
	b) T.A. and D.A.	2.889	
	c) Vehicles/mobility	8.789	
	d) Office Equipments	2.030	
	e) Furnishings/Overheads	5.305	
	f) Monitoring/Review	0.140	39.586
6.	Human Resource Development:		
	a) Personnel	3.900	
	b) AWDCs	7.581	
	c) HRD Infrastructure	2.805	
	f) Incntve for Trg.Prog.AWDCs	1.475	15.761
	TOTAL:		346.716

(rounded to Rs.347.00 lakhs)

16.6 Amounts Earmarked for Loaning Activities:

As has been agreed with the NAP Office, the state Integrated Rural Development Programme (IRDP), and the Government of AP, the amounts earmarked for loaning programmes are to be placed at the disposal of Director, Integrated Rural Development Programmes, which is the state level apex of the District Rural Development Agencies.

Director, IRDP, will be responsible for ensuring that against 30% margin money provided by NAP, an additional 70% is mobilised from banks, DRDA and other district level agencies dealing with the

economically weaker sections. The terms and conditions and procedures to be adopted for such loaning facilities will be worked out by NAP Office in consultation with the agencies to be involved along with PDCMPU in income generating activities. As far as dairying is concerned, PDCMPU will have the nodal role in selection of beneficiaires as per norms to be drawn up jontly between IRDP, NAP Office, and agencies to be involved in income generating activities.

The budget allocations for 30% of the loan amounts are as follows:

Programme	Units no*socts:t	Cost @Rs.8000	NAP(30%) @Rs.2400	DRDA(70%) @Rs.5600
Anmls: Mbrs	15*80:1200	96.000 L	28.800 L	67.200 L
Anmls: EWS	20*80:1600	128.000 L	38.400 L	89.600 L
TOTAL	35*80:2800	224.000 L	67.200 L	156.800 L

16.7 Project Implementation:

The General Manager, NARMUL, shall be the Chief Executive of this project, with full responsibility for project implementation and accountability. He shall coordinate with other district level agencies and with the Apex, AP Dairy Cooperative Federation. However, in the implementation of the programme he will be supported by a team of exclusive project personnel, headed by the Programme Coordinator. The General Manager shall ensure that this team is provided adequate support from the existing Dairy personnel.

While the head quarters of the project will be in the at Hyderabad, where the Office of the General Manager is located, the project team will be stationed at Nalgonda, where one of the 3 milk chilling center commanding the project area is situated. The HRD team will be operating from Nalgonda, though, for some of the major training programmes, the facilities at the Union Training Centre at Bhonghir will be made available.

16.8 Coordination and Linkages:

The various components of the project envisages coordination and linkage with the district developmental agencies like DRDA, SC and BC Corporation, financial agencies (banks).

The APDDCFL, as the apex body for Dairy Developoment in the state, will be co-ordinating and monitoring this project along with other district dairy projects assisted by NAP. The APDDCF will have a primary responsibility in arranging the programmes of training, at the union training centres and with outside HRD agencies.

The bulk of the activities related to organisation of AWDCs and taking up of loaning programmes will be initiated during years 2, 3, and 4. Support activities will be initiated during year 2 and will

continue throughout the project. Animal health and AI infrastructure development will be initiated during year 2 and stepped up during years 3 and 4.

16.9 Project Team:

The project staff consists of the following:

a) Programme coordinator for heading the project
b) HRD Officer (C.D.Officer) heading HRD Team
c) Extension Officer, coordinating village level activities
d) Fodder Officer responsible for all fodder related programmes
e) 11 Women Extension Supervisors each responsible 8 villages
f) 2 trainers in the HRD team
g) Computer Operator cum Office Secretary
h) 2 Drivers

16.10 Training and Orientation:

Dairying on the 3-tier Anand pattern involves the following activities:

a) Creating awareness and imparting skills to the women members on scientific management of Milch Cattle and economic milk production.

b) Participation, management and the leadership skills for organising and controlling the co-operative society which form the micro level base for the efficient marketing and for the organisation of inputs for enhancing milk production.

c) Training and orientation of the society workers in the technical skills essential for availing the doorstep services to be provided by the project and to ensure their contributory efforts to enhance milk production and for filling up any gap in technical services.

As far as personnel are concerned the following training programs are proposed: Programmes of Induction Training/Orientation/Refresher Courses consist of team training with the National Dairy Development Board (NDDB) which is implementing the Operation Flood Programme. To the extent of the Officers in the team, an additional course of one week is envisaged to enhance their skills in planning and organisation of the project. This will be organised by NDEB/IRMA at Anand as a continuation of the above introductory course. A 3 day orientation on the objectives of NAP and on the approach to income generation programme with special reference to economically weaker section, is also proposed.

Trainers Training for HRD team: communication skills, teaching skills, Trainingng to Fodder Officer in Fodder Production Technology, Training to Extension Officer in Extension Skills, Programme of Training to Women Extension Supervisors: cooperative organisation, management and accounting and extension skills; training in technical inputs.Computer Orientation Programme for the Programme Coordinator, Exposure Programme.

Trainig at socity level will be directed towards: Paid Secretaries, AI Workers, Chair persons of the AWDCs, Managing Committees of AWDCs, Loan Beneficiaries, Economically Weaker Section members,

General Members.

Training programmes at Union Level will be organised for paid secretaries, AI workers and Chair persons/managing committees of AWDCs. Orientation programmes for general members, including exposure to dairying infrastructure will also be organised at Union level.

Training Programmes at Village Level will be organised by the HRD team in cooperation with the extension team and will cover the following: Orientation programmes for loan beneficiaries, Post loan follow up programmes, Training on Animal health, Training on Fodder development, Village camps with audio-visuals etc. Wherever necessary, the HRD team will secure the cooperation of the voluntary organisation for such village level training programmes.

16.11 Accounting and Audit:

The project account will be maintained separately in the name of the General Manager, NARMUL as Chief Executive of the Project. He will operate with full powers subject to the programme approved including the mid-course corrections if any. He will report to NAP once in every quarter on physical and financial progress.

There will be an independent Auditor to audit the accounts of this project and once a year, the audited accounts will be furnished to the NAP by the General Manager, NARMUL Ltd. Separate Bank account will be maintained for monitoring the risk fund.

16.12 Phase I:

It is proposed that during phase 1, infrastructure development at

Union level and personnel mobilisation can be completed. Along with this organisation of societies and loaning programs will be taken up in project villages covered under Phase 1 of the water supply construction program. The estimate for the first phase (1992-1996) is 40% of the total budget, Rs.138.80 lakhs.

With the participation of NAP Office, it is proposed to take up a full review of the programme at the end of the third year. It will analyse the performance and apply Mid-course correction wherever necessary. If required, budget re- allocation will be made within the budget propsoal as approved by the Netherlands Government.

17. INCOME GENERATION FOR WOMEN - SERICULTURE

A farm to fabric programme has been submitted by the Federation of Sericulturists and Silk Weavers Cooperative Societies Limited (SERIFED) for taking up farm activities such as mulberry growing and silk worm rearing, and up stream processing activities such as silk reeling, silk yarn twisting and silk cloth weaving. The programme is to benefit women of the economically weaker sections. Members will be organised into primary cooperatives and provided technical and marketing support by the district level and state level Union/Federation.

The project components include:

- On farm activities (Mulberry cultivation, silk worm rearing, seed growing units)
- Off farm activities (reeling units, charka units)
- Infrastructure development (chawkie rearing centres, strengthening existing grainage/silk reeling units, setting up of technical service centre)
- Extension services (training to farmers and women involved in reeling, technical services such as disinfection of silk worm rearing units, mulberry farms, procurement of silk worm seeds, etc).

At the district level, the programme will be implemented and monitored by the Assistant Director of the Sericulture Department and at the State Level by the Director Sericulture supported by his planning cell. Though sericulture is a feasible income generating activity for the Nalgonda area, it has not received sufficient government support upto now. The sericulture department hopes to initiate intense sericulture activities with the Netherlands assisted intervention as the take off, dovetailing the programme with other activities that are being planned by the department.

Emphasis is to be placed on provision of employment particularly to women and marginal/landless agricultural labourers. Over a period of 4 years the programme will generate employment for about 3000 persons, majority of whom will be women from the economically weaker sections. The programme has inbuilt components for taking government land on lease, for providing irrigation facilities and loan facilities for farm/infrastructure development and for technical and organisational training support. Under the overall control of the Assistant Director, exclusive project team will carry out the implementation of the programme.

The six year intervention is estimated to cost Rs.151.761 lakhs.

17.1 Background to sericulture in AP:

Andhra Pradesh is the second largest silk producing state in India. The sericulture industry involves 1.38 lakh acres under mulberry cultivation and cocoons production of 28000 tonnes per annum, in about 8476 villages, mainly in the drought prone areas. Since mulberry is drought resistant crop and since its cultivation and the rearing of cocoons are labour intensive, the industry is ideal for small and marginal farmers.

The various activities under the industry are: mulberry growing and silkworm rearing, silk reeling, silk yarn twisting, silk cloth weaving. Through the proper inter-linking of these various activities, and through extending support to the people involved, the industry can be made very productive as also profitable.

Nalgonda District has rich traditions in silk weaving. The Pochampally silks are famous. However, the artisans involved in its production have to depend on import of raw silk from outside the district. The project will aim at filling this gap, while ensuring

that the farmers involved in the production of raw silk are extended technical and organisational support.

At the same time, the project will ensure the broader objectives of the Netherlands assisted projects, in terms of providing gainful employment particularly to rural poor women, and providing with organisations and forums where they can have visibility and articulate their problems and be creatively supported in working out the responses. The project will also facilitate close interaction with the NAP activities in the areas of health and sanitation education, women's participation in water supply/sanitation etc., by orienting the project personnel on these aspects, by close interaction with the other agencies to be involved in the project, and through opening the women organisations under the project as platforms for organisation/education in these areas.

17.2 Specific Objectives of the Project:

The project has two objectives: to provide gainful employment to small and marginal farmers, agricultural labourers, and especially to women, in the mulberry growing, cocoon rearing and silk reeling sector, and through this to enhance the production and supply of adequate quantity of raw silk to the traditional weavers in the district.

17.3 Project Strategy:

The farmers and weavers to be involved in the project will be brought under the umbrella of a three-tier cooperative network. Sericulturist Cooperative Socities at the village level, with small and marginal women farmers as members. Activities will include: technical, infrastructure, organisastion, financial support and extension services/training for mulberry cultivation and organisation of chawkie rearing and cocoon reeling centres. 15 such coops are propose dunder the project.

District Level Sericulture Cooperative Union, with village coops as members. Activities will include procurement of cocoons harvested in the primary societies, setting up of reeling and twisting units, supply of raw silk to weavers, procurement of silk material for marketing through the state apex. The Union will also provide administrative and technical backstopping to the village coops.

Federation of Sericulturists and Silk Weavers Cooperative Societies Limited (SERIFED) will coordinate the activities of the various distrcit unions, orgsanise training, undertake marketing, provide R & D support, support weavers with designs, improved technology, etc.

At the GOAP level, the Department of Sericulture will be the nodal department. The department will liaison with the various governmental agencies, rural development corporations, and financial institutions to facilitate the functioning of the three tier set up under the umbrella of the SERIFED.

17.4 Physical Targets:

The twisted yarn requirement for the district is 40.70 tonnes per

annum. On the farm sector, this will call for 1500 acres under mulberry cultivation. To meet this target additional 700 acres have to be brought under cultivation. Under NAP, 500 acres will be cultivated, through 15 primary cooperatives. The expected yield is 525 tonnes of cocoon per annum.

For silk yarn production 42 twin charka units and four 12-basin multi-end reeling units are required. Seven 360-spindles and two 720-spindles twisting units are required for twisitng the yarn into warp and waft.

It is also planned to organise 4 technical service centres, one mobile training centre, two grainages of 10 lakh capacity to provide technical and other services to the farmers to be covered under the project. Further, 250 reelers and 275 twisters will bw provided special training.

20 All Women Silk Weavers Cooperative socieities are also planned for providing employment to 800 women. Some of the yarn produced by the twisting units will be reserved for supplying to these coops.

17.5 Activities and Cost:

1. Irrigation sources for mulberry growers: Ten clusters at the rate of 30 acres is proposed, covering 300 members. Each cluster is to be provided with a bore-well. This will take care of 300 acres of mulberry cultivation. Another 200 farmers will be provided assistance for deepening of wells and purchase of pump sets. 100 more farmers will be assisted for purchase of pumpsets. The balance 100 farmers will be provided in-well bores. The total finacial requirement is Rs.39.50 lakhs.

2. Investment cost for mulberry cultivation/silk worm rearing: Initial investment cost as per guidelines developed by NABARD works to Rs.13,300 per acre. The financial requirement for 700 farmers will be Rs.93.10 lakhs.

3. Share capital assistance for enrolment as members: Of the requirement of Rs.100/- per member, it is proposed that each member makes a down payment of Rs.20/- and the balance will be collected at the rate of Rs.20/- per crop. SERIFED will contribute Rs.10,000 per society as share capital assistance. Support from NAP is estimated at Rs.2.00 lakhs, covering 800 women.

4. Working capital assistance to primary coops: Support is proposed for chowkie rearing centres and for supply of inputs at the rate of 3.23 lakhs per society. The investment requirement is Rs.48.61 lakhs.

   Managerial assistance for providing secretarial and accountancy services will cost Rs.30,000 per annum per society.

5. Investments on grainages: The grainages are intended for providing cross breed disease free layings (CBDFLs) to mulberry growers. The cost for two units is estimated at Rs.15 lakh. The recurring expenditures for the project period is estimated at Rs.13.52 lakhs.

6. Investment on mobile training centres: Investment costs are proposed under: equipments - 3.44 lakhs, operating costs - 12.60 lakhs, contingencies - 0.54 lakhs, taking the total cost to Rs.16.58 lakhs.

7. Investment on technical service centres: The sericulture department will invest Rs.6.41 lakhs for setting up four technical training centres for providing training and extension services to farmers and weavers.

8. Training costs for reelers and twisters: For a six month training to be provided to 250 reelers and 275 twisters the budget requirement is Rs.16.50 lakhs.

9. Setting up reeling andtwisting units: For setting up 42 charka units, Rs.2.52 lakhs is estimated. The stimate for the four 12-basin units is Rs.20.00 lakhs. Working capital requirement for all the units put together is estimated at Rs.21.53 lakhs. For setting up the seven 360-spindle units, the estimate is Rs.17.50 lakhs and for two 720-spindle twisting units the estimate is ten lakhs. The working capital estimate is Rs.1.94 lakhs for twisting units; Rs.1.16 lakhs for 360-spindle untis and Rs.0.79 lakhs for 720-spindle units.

10. Investments for organisation of women coops: The working capital will be mobilised from banks. However it is proposed to supply 800 modernised looms with the cost of Rs.4000 per unit being shared between NAP and NCDC. The total cost is estimated at Rs.32.00 lakhs. In order to further provide good working conditions, house-cum-worksheds are proposed for the women weavers. The unit costs is Rs.12,900. The cost sharing will be between GOAP/RNG/HUDCO. The total cost is estimated at Rs.127.20 lakhs.

11. Design development cell: A design development cell is proposed with designers and market research officers. The financial requirement is Rs.5.06 lakhs.

12. Investment on designing nd implementation of management information system: It is proposed to computerise the data required for monitoring purpose. Estimate for hardware is Rs.1.50 lakhs, and software Rs.1.00 lakh.

13. Establishment of technical and promotional cell at SERIFED: A cell is to be set uo in the SERIFED with adequate and competent staff to monitor the programme, to provide resource support and to coordinatew with the other agencies involved in NAP. The cell will be headed by an extension officer, with necessary technical and managerial support staff. The total cost for the cell is estimated at RS. 21.71 lakhs.

17.6 Abstract Budget:

Scheme/Units	Total Cost	NAP Amount	%	Other Agencies Amount	%
Drilling bores/10	7.00	7.00	100	nil	
Deepng wells/Pmps/200	20.00	6.66	33	13.34	67
Pump sets/100	8.00	2.66	33	5.34	67
In-well bores/100	4.50	1.50	33	3.00	67
Silk Worm rearing/700	93.10	nil		93.10	100
Shre cptl mlbry coops/15	4.20	1.20	29	3.00	71
Supply of chowkies/15	48.61	20.26	42	28.35	58
Estt.reeling units/46	44.04	18.06	41	25.98	59
Estt.Twisting Units/9	29.45	14.10	44	15.35	56
Technical/monit.cell	35.52	13.81	39	21.71	61
10 lkh capcty grain/2	13.52	5.22	39	8.30	61
Farmers mobile centre/1	16.59	16.59	100	nil	
Technical Service ctr/4	6.41	nil		6.41	100
Training fr reelers/250	9.65	5.15	53	4.50	47
Training fr Twister/275	6.85	1.90	28	4.95	72
MIS	2.50	2.50	100	nil	
Working Capital weav/20	8.80	8.80	100	nil	
Modernstn Looms/800	32.00	12.80	40	19.20	60
House/Worksheds/800	127.20	9.75	8	117.45	92
Dsgn devpt/mrkt.cell	5.06	1.80	36	3.26	64
Strngthg wv.shrcptl/20	2.00	2.00	100	nil	
TOTAL	525.00	151.76	30	373.24	70

17.7 Cost sharing:

Of the total project outlay of Rs.525 lakhs, NAP contribution is projected ast Rs.151.76 lakhs. The balance amount of Rs.373.24 lakhs (71%) is to be mobilised from NCDC, Banks, HUDCO, DRDA, SC/ST/BC Corporations, GOI and SERIFED itself. SERIFED will take the responsibility to mobilise these additional resources.

17.8 Phasing of the Project:

The project period will cover 6 years, from 1992 to 1998. Within this period, the project will be taken up in 4 phases. During phase 1 the focus will be on establishing the mulberry growers/cocoon reeeling infrastructure and organisations at the village level. During this stage also support infrastructure such as establishment of grainages, and setting of the technical services centres and Training Centres will be taken up. The cost for Phase 1 is anticipated at 40% of the total cost, Rs.60.70 lakhs.

During phase 2, the reeling and twisting units are to be established. During phase 3, the training of reelers/twisters will be taken up along with the organisation of the women weaver coops. During phase 4, the development of these coops will be taken up along with the organisations of the district union.

17.9 Management of the Project:

Since the district union can be set up only after the primary coops are established and made functional, it is proposed that the project

be managed directly by the SERIFED, at least for the initial three to four years. For this reason the development of the technical and monitoring cell within the SERIFED will be taken up during the first phase.

17.10 Anticipated project benefits:

It is anticipated that 1500 small/marginal farmers can earn through this project an additonal annual income of Rs.20000 per annum. On-farm sector, 3750 agricultural labourers will find continous employment. The non-farm sector will create employment potential for 525 people. On the seri industry sector, by the completion of the project, twisted yarn production will be 40000 kgs per annum. Through the marketing network this will be made available to the weavers in aNalgonda District. This will particularly benefit women weaver coperatives.

PART 5

INSTITUTION DEVELOPMENT

18. THE CONCEPT/STRATEGIES FOR INSTITUTION DEVELOPMENT

18.1 Integrated Approach and its Demands:

The IDWSSD had advocated an integrated approach as the strategy for the planning, execution and operation/ maintenance of rural water supply and sanitation programmes.

The integrated approach requires that the nodal activity of providing water and sanitation infrastructure be coordinated and supported by a spectrum of complementary activities, health and hygiene education, awareness regarding water collection/storage/use, effective operation and maintenance, O/M cost sharing, water quality surveillance, sanitation activities around water supply widening out to cover personal, domestic and environmental hygiene, income generation and other women and children oriented development programmes, organisation and education of the people - all designed to ensure the responsible participation of the community in the programme.

The sector agency responsible for water and sanitation was to take the initiative to develop the strategies and operational plans for such integrated approach, identifying and involving various specialist agencies (governmental and non-governmental) and co-ordinating, monitoring this inter-agency intervention.

The Delhi Declaration of 1990 (Some for All Rather Than All for Some) has once again underlined the validity of this approach. Further, the Governments of India and Andhra Pradesh have taken policy decisions to adopt this integrated approach for the total rural water/sanitation sector.

18.2 Rationale for Inclusion under AP III:

Though institution development is aimed at the sector and particularly PRED as a whole, this component is included under AP III - NALGONDA for administrative reasons. However the planning, implementation and monitoring of this component will receive separate attention as discussed in later parts of this document.

Further, AP III - Nalgonda will provide a good field laboratory for testing the validity, efficiency and impact of the several activities to be initiated.

18.3 Netherlands Support:

The Royal Netherlands Government, one of our major external support agencies all through the IDWSSD, has been advocating and funding the integrated approach for the last 3 to 4 years. RNG has now made it mandatory for further projects to be eligible for support that they have an integrated character and an explicit orientation towards community participation in project planning, execution and subsequent maintenance. Though the NAP Office will continue to support PRED in these areas, the draft policy framework for the 1991-2000 stipulates that within a mutually agreed to time schedule, the department take over the primary responsibility planning, executing, co-ordinating and monitoring the integrated approach.

However, the RNG has also indicated that PRED may seek financial and technical support for enhancing its capability for functioning as

the pivotal agency for the integrated approach to water and sanitation. 10 areas when support could be availed of have been indicated in the discussion paper on "Institution Development Support", and the draft Policy Framework indicates technical and programme support funds that may be tapped towards institution development. On an average 25% of the cost of all future projects posed to RNG is to be earmarked for complementary activities, which may include apart from community based development programmes, also institution development programmes for the department and other partner agencies.

This support is not only welcomed, but looked forward to, since there is a long history of sector partnership between RNG/GOAP. The RNE/RSMs/NAPO are fully aware of the sector realities and their constraints as also possibilities vis-a-vis the capabilities/ limitations of PRED. Just as technical/training support has contributed to growing expertise in the planning and implementation of water supply construction. it is hoped that similar support in the area of institution development will set in motion a process for enhancing PRED's capabilities for good management.

It is hoped that institution development will receive as much importance as any RWS/S project, both because of the long term benefits and because of the complexities involved in this relatively new and unexplored area.

18.4 The Challenges Ahead:

Apart from the limited objective of taking full advantage of the support offered by RNG, both the present sector realities and the challenges that lie ahead should be the real motivator for launching an institution development project:

a) a growing shift from simple handpump technology to more complicated comprehensive piped water supply schemes, necessitated due to falling ground water tables, problems of fluoride and salinity in ground water and also equally by the demand from the public for higher levels of service.

b) increased consciousness on the quality and reliability of the services being provided

c) increased sector budget allocation and consequently the growing number and diversity of projects and assets to be maintained.

d) the departmental responsibility for proper operation, up-keep, replacement and upgradation of services provided.

e) the need to address sanitation issues much more realistically, to ensure that the health benefits of improved water supply really reach the people.

f) the need for efficient, reliable and update information and data management for planning, monitoring, execution and operation/ maintenance of schemes.

g) the absolute need to involve the community in cost/responsibility sharing for execution and O/M.

18.5 Areas for Institution Development Support:

a) community based and sustainable operation and maintenance of rws

b) institutionalisation of integrated approach by building up expertise on water and sanitation with NGOs

c) improved monitoring/coordination with its connected components such as improved management information system (MIS), standing institutional arrangements for review/programme reorientation

d) developing the knowledge, skills and attitudes both technical and human of the personnel of the department so that their capability to address themselves to the demands and implications of integrated water supply and sanitation projects can be enhanced. This calls for a systematic approach to human resources development (HRD).

18.6 Approach to Institution Development:

During discussions with the First Secretary and Sectorspecialist - Mr. Peter M. Flik - at Hyderabad, it was agreed that the total concept of Institution Development would be taken up for serious study during a workshop involving PRED/NAP Office/RNE/Review and Support Mission.

During this workshop, it is hoped that the concepts, strategies and operational plans for institution development can be spelt out and later documented, with clearly defined task allocations and time schedules and monitoring mechanisms.

It was also agreed that PRED may make project proposals for further activities not covered under the HRD and MIS proposals, independent of Water/Sanitation project proposals.

As such, this document outlines the PRED proposal for only two of the components under institution development - Human Resources Development and Support for MIS Development.

18.7 Budget for Institution Development:

In principle agreement has been reached that GOAP/RNG will share the cost for institution development at 25:75 ratio. The abstract budget is indicated below:

COMPONENT	TOTAL COST	COST OF STAGE I	RNG Amount	%	GOAP Amount	%
HRD	894.88	536.93	402.70	75	134.23	25
MIS	125.00	93.75	70.31	75	23.44	25
TOTAL	1019.88	630.68	473.01	75	157.67	25

19. HUMAN RESOURCES DEVELOPMENT FOR THE SECTOR

19.1 HRD at the National Sector Level:

The GOI Planning Commission Working Group on Rural Water Supply and Sanitation has recognised the need for extensive training and education in agencies implementing water supply and sanitation programmes. It has recommended that at least one percent of the sector allocation under the VIII plan be ear-marked for HRD activities.

Based on its recommendation, the Department of Rural Development had set up a committee to prepare an approach paper for HRD planning and implementation at national, regional and state level. The HRD is to cover the totality of the RWS/S sector to enhance the understanding, knowledge and skills of all those directly/indirectly involved in the sector. The committee has finalised its report and has presented it to GOI in December 1990.

Committee Recommendations:

Due to lack of planned approach to HRD, serious gaps have been observed in in-service training and continuing education, training and appraisal of performance of trainers, exposure of personnel to concepts and methods of modern management and training approaches, etc. As such the committee has recommended a systematic and planned approach to HRD, laying emphasis on developing and strengthening HRD institutions and their net-working at all levels.

The action plans proposed focus on the following:

a) Identification of the gaps in performance in the department from time to time

b) upgrading the existing skills of each member of the rural water supply and sanitation sector

c) bringing in new knowledge and translating the same into appropriate curricula of training

d) development of appropriate curricula for the state level and regional/sub-regional level training centres

e) development of R&D systems

The strategy proposes that the HRD plans be linked with field realities, so that trainers and trainees can test the adequacy and validity of the training concepts and content in real rural situations. For this each HRD centre is to adopt villages as field laboratories.

Proposed Institutional Frame-work:

A three tier National Human Resource Development Programme has been proposed under the umbrella of the DRD (Water Mission):

- Regional level Centres of Excellence
- Specialised Institutions
- State Level Training Centres

The report has stressed the need for each state establishing its own training institute, in addition to centrally sponsored institutions and programmes.

Training Methodology:

The Committee has recommended strong rural and field orientation in all training programmes, drawing heavily on practicals, demonstrations, field level action, group discussions and case studies. A participatory and holistic approach is stressed, demanding multi-disciplinary training inputs.

State Responsibilities:

The HRD plan for each state is to be prepared keeping in mind the following:

- trainers training
- trainees training
- orientation workshops
- specialised training
- sponsorship for long term training courses.

Training of Trainers:

Heavy emphasis is placed on the proper identification and training of trainers, and appraisal of their performance. Guidelines for selection of trainers, and trainers training have been indicated in the report.

Trainers are to be skilled not only in the areas of specialisation, but also in participatory and learner oriented training methods, and well exposed to rural realities. External resource persons are also to be oriented to the sector realities and issues, before they are enpanelled as guest faculty.

HRD Budget:

The committee has recommended a budget allocation of Rs.20 crores under the VIII plan period.

19.2 HRD - RWS/S Andhra Pradesh:

In September 1988, PRED had presented to Review and Support Mission AP 20 a project proposal for strengthening its in-house training centre -the Nagarjuna Rural Engineering Training Centre (NRETC). Reference may be made to RSM 20 page 33 and annexure 19 and 20. It was agreed that the proposal would be discussed with NAP Office and better formulated.

During RSM 21, the guidelines for the formulation of an in-house training centre were further discussed. It was decided that NRETC should function as a nodal agency for all in-house training on rural water and sanitation, covering all levels of PRED staff, both engineers and ground level operators. It was also agreed that the training inputs will cover technical, managerial and community participation aspects.

In the meantime, the NRETC, now renamed Research, Development and Training Centre (RDTC) had further developed both its infrastructure and training activities, with a full time director and a skeleton support staff, with training faculty being drawn from various educational and governmental institutions, as well as field engineers from various departments. During RSM 22 (November 1989), it was decided that RNE would assist PRED in seeking an external consultancy for formulating a comprehensive human resource development plan (RSM 22, page 55).

Terms of Reference for the consultancy were jointly formulated by PRED/NAP Office/RSM. The consultancy costing Rs.3.644 lakhs for evolving a perspective plan and budget for human resources development within the PRED, was commissioned by RNE in the first half of 1990.

19.3 The CFDRT Consultancy:

The CFDRT set up a Team consisting of 6 experts in order to undertake this study. PRED/NAP Office also set up a committee headed by the Chief Engineer, to whom the CFDRT had to report on a regular basis.

The study commenced in August 1990 and field studies from 1st September. The draft findings and recommendations of the study were presented to the PRED/NAP Office committee in a workshop at Hyderabad on 11 & 12 December 1990. Based on the discussions during the workshop, CFDRT finalised its report and presented it in January 1991.

The districts selected for the Training Needs Assessment study were: Rangareddy, Medak, Nalgonda, Vizianagaram, Kurnool, Prakasam and Guntur. One high and one low performing sub-division in each district was selected by PRED for the study. The functionaries studied by the CFDRT Team were: CE, SE, EE, DYEE, AEE/AE, Geologist, Chemist/ Water Analyst, Work-Inspector, Electrician, Draughtsman, Tracer, Pump Mechanic, Fitter, Pump Operator (Head works & OHSR), Filter Bed Operator, Linesman, Helper, Gangman, and Caretaker.

19.4 Recommendations of the Consultancy:

a) The perspective plan/budget is for a period of 5 years. The proposal is to cover only water and sanitation related aspects, but for the entire sector.

b) The nodal agency is to be the RDTC, to be supported by three RTCs (Regional Training Centres). Each of these centres is to be provided with full infrastructure, hostel facilities, workshops etc., and are to be housed in permanent buildings.

c) The overall responsibility training is to be vested with a chief engineer (training) who is to be supported with a core faculty specialised in civil engineering, management and behavioural sciences. These in turn are to have support faculty. At the RTC level the responsibility will lie with a director of the rank of an SE and supported with core faculty.

d) Issues related to policies, management, budget etc., are to be guided a Training Advisory Committee, to be chaired by the Secretary PR&RD. Chief Engineer (Training) is to be the member-secretary.

e) While the RDTC is to be responsible for all training upto the level of junior engineers, RTCs will take up training for lower level personnel, including operators, fitters, electricians etc. RTCs are to be mobile enough to conduct training programmes at field level

f) The RDTC will function as the coordinating cell for all training programmes for PR(RWS) including seminars, training programmes abroad, exposure programmes etc.

g) For the capital funds and recurring expenditures for 5 years, PRED is to seek assistance from RNG. It is also proposed to extend the training facilities also to CE (Tribal Welfare), CE (Public Health) and CE (Metro Water), Ground Water Board etc. so that additional funds can be pooled. E-n-C to approach GOI, NEERI etc. for conducting some of their courses at the RDTC, so that the burden of recurring expenditures can be shared/reduced. Further, this will give RDTC a national level status. Discussions have already been initiated with GOI and there are reasonable chances of RDTC being granted some of the national level training programmes.

19.5 Training Requirements:

The entire department needs in-service training, covering all levels of personnel, since all of them are involved in the planning, construction and management of water and sanitation projects.

The sheer number of people to be trained, both under induction/post promotion orientation and in-service refresher programmes demand an exclusive in-house training facility, both at the state and at regional levels.

Context-specific training, inter-hierarchy team training, participatory planning and evaluation, the need to relate technology with rural sociology and community based project management, etc., reinforce the need for in-house training institutions. Isolated and random training inputs are found to contribute very little to organisational changes or improved performance, because the promotive training/ learning environment is lacking, and because external training cannot often contribute to team commitment to performance.

This of couree does not imply that facilities available with existing training centres will not be availed. In fact, one of the tasks of the in-house HRD team will be to inventorise such training programmes within the state and country as also abroad and to plan deputation of personnel for such programmes as complementary to in-house training.

Some of the areas in which basic orientation and training in-house are essential are the following:

- Project Planning and Monitoring
- Personnel Management

- Operation and Maintenance
- Community Participation and Integrated Approach
- Personality Development
- Scheme Specific Training of Implementation/Maintenance Staff
- Introduction of Improved/Computer-based MIS

Such basic training programmes will be supplemented with external training where departmental personnel will have the opportunity to interact with other departments.

The Consultancy has recommended various training modules for all categories of personnel: Chief Engineers (5), Superintending Engineers (20), Executive Engineers (100), Deputy Executive Engineers (400), Assistant Executive Engineers/Assistant Engineers (2000), Geologists (50), Chemist/Water Analysts (50), Work Inspectors (1200), Draughtsmen/ Tracers (1200), Electricians/Pump Mechanics (4000), Filter Bed Operators/Fitters/Linesmen/Gangmen/Helpers (5000).

Scheme specific training is proposed for groups comprising AEE/AE, Work Inspector, Electrician, Pump Mechanic, Pump Operator, Filter Bed Operator, Linesmen, Fitters and Helpers with AEE/AE as the Team Leader.
Apart from the above courses, provision is made for the conduct of workshops thrice a year, at RDTC, on topics suggested by the Staff. The participants will be EEs, DYEEs & AEE/AEs. Special Courses will be organised in conjunction with the development and management of computer-base MIS systems. The training will consist of orientation/ appreciation courses for senior engineers, programming/system management training for AEEs and operation skills for clerical staff.

19.6 Organisation and Management:

The state level centre will take the responsibility for overall HRD planning and co-ordination and will actually plan and conduct training programmes for the engineering personnel.

The regional training centres (RTCs) will be responsible for the organisation and conduct of training programmes for operating staff such as work inspectors, electricians, fitters etc. In addition, the RTCs will organise field based and scheme specific training programmes especially for O/M staff.

The Training Advisory Committee (TAC):

The need for a monitoring and evaluation system is emphasised so that a regular feedback from the trainees is obtained. Communication from the field situation to the training situation and communication back to the field situation without loss of time is the essence of this system. This will constitute a continuous Training Needs Assessment input into the training system which will thus get updated periodically.

A Training Advisory Committee will be constituted for monitoring the activities of the training centres. All the proposals including annual training master plan, training curricula and financial sanctions will be placed before this committee periodically. The committee will be headed by the Secretary PR&RD and will have as

members all the CEs of PRED, the CEs of Public Health Engineering Department, Tribal Welfare, heads of organisations concerned with ground water resources, Commissioner PR&RD, and the core faculty of the RDTC. The Director of the RDTC will be the convenor.

19.7 HRD Team:

The in-house HRD Team will be headed by a Director of the rank of a CE. He will directly manage the state level RDTC, with a core staff of 3 specialists. Each RTC will be managed by a trainer of the rank of SE, who will be reporting to the Director of RDTC.

The training staff at RDTC will consist of: three divisions, technology, management, bellavioural sciences/sociology, each headed by a trainer of the rank of SE. They will be supported by a civil engineer, a geologist, a management specialist, a research scholar, and an educational technologist, all of EE status.

To assist the above core faculty, provision is made for the following personnel: mechanical engineer (1), electrical and electronics engineer (1), computer specialist (1) and chemist (1), all of DYEE status.

The other personnel proposed are: finance manager (1), librarian (1) and secretarial staff consisting of office manager (1), stenos (2), typists (2), documentation assistant (1) and accounts assistant (1).
Staffing of Each RTC:

Under each Regional Director, there will be two broad divisions headed by a technical expert and a behavioural scientist, of EE status. They will be provided with adequate support staff consisting of a civil engineer (1) and a mechanical and electrical engineer (1) of the status of DYEE.

The remaining staff will be office manager (1), senior assistant (1) and a library Assistant (1).

19.8 Tasks of the HRD Team:

The HRD team, consisting of the Director and core team of RDTC and the Directors of the three RTCs, will have the following responsibilities:

a) Curriculum planning, modules development, identification of external resource organisations and persons

b) Monitoring and evaluation of training

c) Administration and Management of the training centres

d) Maintenance of HRD data base on all personnel of the department, and planning in-service training for them in consultation with the concerned heads

e) Identifying potential organisation for training of trainers

f) Plan and organise in-service training for trainers themselves

g) Establish linkages with other training centres

h) Inventorise/organise deputation of personnel for external trainings.

i) Inventorise training programmes abroad and organise deputation

j) Plan deputations for post-graduate courses/specialisations

In sum, the HRD team will be responsible for not only for the routine conduct of in-house training, but also for planning the man-power development of the organisation.

19.9 Selection/Training of Trainers:

Though the detailed modalities for the selection of HRD Core Team and faculty are yet to be finalised, in principle agreement has been reached that engineering personnel would be drawn from the PRED. As far as social scientists and other specialists are concerned, suitable candidates will be recruited either on deputation from universities/ other departments or drawn through open selection.

Guest faculty will be drawn from universities/departments/ specialist organisations on ad hoc basis or on consultancy terms. Services of experts/professionals will be availed on ad hoc/consultancy basis.

Training of core faculty of RDTC and placing them shall precede the recruitment and training of the remaining faculty and administrative staff. It is proposed that the training/orientation of the core-faculty be entrusted to a competent training management institute in India or abroad. This institute shall also assist the core faculty in setting up the RDTC and in initiating the preparatory work for training, such as curriculum development, preparation of modules, identification of guest faculty, operationalisation of planning procedures for organisation/conduct of training.

The core-faculty shall also plan with the consultants exposure programmes to other training centres, and shall if possible work as under study to the consultants, for a specified time period and shall also be placed as under study in training centres in India/abroad.

The consultancy support can be phased out gradually, as the core-faculty gathers experience and expertise. Such an approach to setting up of an in-house training centre has been adopted also by other departments, for example, the Metro Water Training Centre, Madras of the Madras Metropolitan Water Supply and Sewerage Board, set up with ODA assistance.

It is desirable that the core-faculty be exposed to the new methods of participatory training and develops adequate skills to organise such participatory training methodology in the in-house training programmes.

19.10 Training Infrastructure:

Buildings:

At present the RDTC is operating from a rented premise. Facilities available are inadequate for the proper planning and conduct of the HRD programmes as discussed above. It is hence proposed that the RDTC be provided with its own premises and infrastructure. The proposed RDTC building would be located at Hyderabad in a spacious area.

The training centre will have 2 lecture halls, a library cum documentation hall, a computer room, a laboratory, office facilities, faculty rooms, rest rooms, and necessary toilet/bath/facilities. Hostel facilities are proposed for trainees/guest faculty: 10 single, 10 double and 10 three-bedded rooms with required toilet facilities, lounge, canteen, office rooms, to accommodate 60 persons at a time. Staff quarters for the faculty and staff are also proposed.

As far as RTCs are concerned, as far as possible existing facilities will be availed, with provision for additional facilities as required. However, since the locations are yet to be decided, it is not possible at this stage to indicate what the additional facilities have to be. It is proposed that one full RTC infrastructure will be provided under the project, the remaining two being the responsibility of PRED.

The RTC will have a lecture hall, a library, office facilities for the director, 2 faculty rooms, a room for the office staff, a computer room, a canteen and a lounge/reception, with toilet/bath facilities.

A workshop, a hostel with three dormitories (each to accommodate 10 persons), a few faculty rooms, etc are proposed. Residential quarters for full time faculty/ administrative staff are also proposed.

Furnishings/Equipments:

Budget provisions have been made for furnishing and equipping the buildings with table, chairs and other necessary furnishings. The hostels are also to be furnished. Teaching aids are also budgeted for: TV/VCR, video camera, film and slide projectors, over-head projectors, tape recorders, cameras, xerox machines, computer facilities. Budget provisions include procurement of equipments and tools for the laboratory and workshop. Vehicles for the RDTC and for one RTC have also been budgeted for.

19.11 Budget:

The budget proposal is capital investments for the RDTC and one RTC and for recurring expenditures for the entire HRD for 5 years.

a) Non Recurring Expenditure:

1.	RDTC	235.79	
2.	One RTC	98.37	
3.	Training of Trainers	13.16	
4.	Curriculum Development	14.14	
5.	Revolving Fund for TA/DA	6.00	367.46

b) Recurring Expenditure:

1.	RDTC (5 years)	167.70	
2.	One RTC (5 years)	57.65	
3.	Orgstn of Trg (5 yrs)		
	- Training	155.95	
	- Training abroad	100.00	
4.	Trainers Trg	39.47	
5.	Monitoring	5.00	
6.	TAC Expenses	1.65	527.42
			894.88

Budget Requirement for Phase 1:

a) Non Recurring Expenditure:

1.	RDTC	235.79	
2.	One RTC	98.37	
3.	Training of Trainers	13.16	
4.	Curriculum Development	14.14	
5.	Revolving Fund for TA/DA	6.00	367.46

b) Recurring Expenditure:

1.	RDTC (2 years)	72.00	
2.	One RTC (1 year)	15.00	
3.	Orgstn of Trg (2 yrs)		
	- Training	40.00	
	- Training abroad	25.00	
4.	Trainers Trg	15.00	
5.	Monitoring	2.00	
6.	TAC Expenses	0.47	169.47
			536.93

19.12 Cost Sharing:

The cost sharing pattern proposed is: RNG - 75% and GOAP - 25%. Further the GOAP will undertake the responsibility for meeting all recurring expenditures beyond the five year project period.

19.13 Implementation Schedule:

Activities under Phase 1:

a) Setting up of the TAC and finalisation of the modalities for selection and appointment of Trainers, for planning and organising training programmes

b) Identification/recruitment and training of core HRD team

c) Organisation of consultancy support from a training management institute for TOT and for initiating the various steps in setting up the in-house training centre

d) Setting up of the RDTC - construction of buildings, procurement of equipments

e) preparation of training master plan and detailed operational plan for three years

f) selection/training of trainers/ administrative staff

g) preparation of training curriculum and modules with support from consultants

h) organisation and conduct of training programmes in a phased manner, depending on the strategy finalised under the HRD master plan

i) setting up of one of the RTCs, along with identification and training of trainers, and initiation of some training programmes

Time Schedule for Phase 1:

Phase 1 is planned for a three year period, beginning from June 1992 and ending with March 1995. Detailed activity time scheduling within this period will be spelt out later.

Activities under Phase 2:

The RDTC training programmes will be stepped up to maximum potential. Concurrently, the RTC set up during phase 1 will be supported to perform at increased levels of efficiency. In a phased manner, the remaining two RTCs will also be established.

Time Schedule for Phase 2:

Phase 2 is tentatively planned for the period April 1995 to June 1998.

20. MIS DEVELOPMENT SUPPORT:

20.1 Existing Monitoring and Reporting System:

Periodic reporting at monthly and quarterly intervals is carried out

both within the department, and outside the department to the District Collector/DDO (partly for computerization purposes and onward reporting to GOI, under the NICNET)to the Zilla Praja Parishad, to the Governments of India and AP through department channels, and to bilateral (the Netherlands, United Kingdom) and multilateral donor organizations (UNICEF, World Bank) for specific projects. In addition ad-hoc reporting is done to GOAP on specific issues on which data/ information is sought.

Currently PRED has to separately report on a number of programmes that are executed in AP. These comprise among other:

- the Minimum Needs Programme (MNP), also for the Scheduled Castes and Tribes and separately for borewells, protected schemes and for maintenance
- the Accelerated Rural Water Supply Programme (ARWSP)
- the Advanced Plan Assistance Programme (APA)
- Technology Mission schemes relating to guinea worm, brackishness, iron and fluoride content, and rain water harvesting structures
- NAP schemes, under NAP I and II and proposed NAP III
- Schemes under the Andhra Pradesh Cyclone Emergency Reconstruction Programme (APCERP)
- Sanitation programmes under the poverty alleviation programmes such as the Rural Landless Employment Guarantee Programme(RLEGP), National Rural Employment Programme (NREP), CRSP, NAP, UNICEF and under State Sector Programme.

Monitoring is carried out at all levels of PRED's hierarchy. The prime source of monitoring however is the M-book. The Assistant Executive Engineer keeps it at section level. For every public work undertaken, the M-book carries all relevant information, and ultimately all reporting data are derived from it. However a lot of potentially useful data in the M-book never enters the monitoring data stream, though data summarizing and aggregation is done at division (EE) level.

At EE level monthly reporting is done manually on the basis of a large number of pre-printed forms. These forms often carry data redundancies and are subject to periodic revisions, depending on additional data sought by the agencies concerned.

The flow of information from the districts has over the past years grown so rapidly and to such magnitudes that it has become a difficult proposition to meaningfully manage, retrieve, analyze and interpret the data. So much so that the higher levels of monitoring are in effect dependent on the divisions for new/updated/consolidated information, or for presenting the same information in a different form, even if such information may actually be available in some form or the other.

At the division level, the same process is repeated, and often information is again called from the field. And the data has to presented in prescribed proforma and requisite copies made. All this

manually. Even changes in small pieces of information requires time-consuming work for preparing the proforma all over again. This makes information generation not only time consuming, but also tedious and uncreative.

Due to inadequate training in scientific information management at all levels, data storage, updating and retrieval have become very difficult and are often neglected. The approach in general is to respond to specific information demands, by generating them at that time. All this leads also to lack of interest in compiling and analysing data at various levels to arrive at management information for decision making, planning and monitoring. Add to this the fact, that personnel are not equipped to build data bases on several other significant aspects related to the dynamics of the programmes, in terms of their level of functioning, community participation, health impact, etc. It also follows that data is never analysed for correlations, for assessing trends and directions and for projections.

20.2 Information Requirements:

Owing to the adoption and promotion of the integrated approach by the GOI and GOAP, PRED's coordination and reporting responsibilities towards other organizations is bound to increase further in the near future.

The MIS should cover the entire RWS & Sanitation sector. The Department is looking for an integrated and comprehensive MIS than for the mere computerization of existing information systems.

- development of a system for collating, analysing information readily available from records being maintained by the department, such as M Book, Stock register, etc.
- development of improved project management tools, dovetailing financial and physical monitoring with micro-level project planning
- inventorising of existing water supply and sanitation infrastructure
- development of systems to facilitate planning and monitoring of integrated approach, with the executive engineer as the nodal agent primarily responsible for coordination between all participating agencies. The information systems with other collaborating agencies both governmental and voluntary will be integrated with the systems within the department so that the quantitative and qualitative performance and impact of programmes can be monitored
- development of improved materials management system
- developing information systems to facilitate operation and maintenance in close collaboration with the gram panchayats
- initiating the development of data on potential and exploitation of ground and surface water sources in relation to drinking water, to assist PRED in perspective project planning.

20.3 Steps Initiated:

Introduction of Computers:

With the assistance of NAP some tentative efforts have been made towards the introduction of computers and computer based information collation at the HQ level and now in some NAP divisions. Some engineers have been trained in using word processing, spread sheet and data handling packages. But by no stretch of imagination can this initiative be termed as the introduction of computers or of a computer based information management. But the intervention has a demonstration effect.

Towards Developing an MIS:

The RNE had in 1988/89 developed a conceptual outline of the MIS indicators for an integrated approach to water supply and sanitation sector. This draft document was discussed with PRED. It was pointed out that the document could serve as an excellent indicator of the information requirements, even though it needed conceptual and operational definition before application in the field.

It was further pointed out that the PRED would not be in a position to provide information on most of these indicators, simply because the existing information system does not address itself to these parameters.

20.4 MIS Consultancy Proposal:

In consultation with RSM/NAPO/RNE, it was agreed that PRED/NAPO would draft the Terms of Reference for an MIS consultancy to RWS/S - AP.

The consultancy is to be addressed to the information needs, systems and their management in RWS/S - AP, from the perspective of RNE's needs, as much as those of the concerned agencies involved, particularly, PRED. The consultancy should analyse and assess present reporting systems and make proposals for strengthening and upgrading them into an efficient MIS.

The department looks to the consultancy for developing systems that can be managed by departmental personnel with some assistance from electronic data processing equipments. The consultancy should also assist in institutionalising the systems within the department in the two project areas and in the monitoring offices. The department will meet the cost of training its personnel and for necessary infra-structure development.

20.5 Consultancy Tasks:

a. Problem Definition

Elaborate the problems connected with the need, development and management of MIS. The problems should be defined also in relation to the MIS working document of RNE and should cover the following areas: M Book related data, RWS Inventory, Project Management, Material Management, Activities under Integrated Approach, Operation and Maintenance, Water Resources Monitoring, Sanitation, Water Quality Monitoring, Water Utilisation, Health Impact, Involvement of Women,

Institution Development, Human Resources Development, Inter Agency Coordination, Sustainability and spread of integrated approach to RWS/S

b. Knowledge Acquisition and System Analysis:

Assess the present reporting systems and information management practices vis-a-vis the tasks and accountability of each of the agencies.

Data capture: inventorise the availability, reliability and validity of data which are to be fed into the database (s) from which the MIS will be drawn.

Information Needs assessment: inventorise the need for information at various levels of the participating agencies.

Organisations assessment: assess the organisational and operational constraints determining the willingness and ability of the various agencies to maintain, and

c. Flexibility:

The programme should have questioning facilities for new information requirements and should be capable of further development through added on written programmes,

d. Refinement and Amplification, Installation and Integration:

Integrate the computerized and manual systems into an MIS (to extent required and useful to RNE and the involved agencies).

e. Identification of Infrastructure Requirements:

Make recommendations for infrastructure/manpower development for ensuring the use and maintenance of the MIS. Hardware introduction/installation/training could be limited to two Pilot Districts (Prakasam & Nalgonda) and to the office of Chief Engineer(RWS).

f. Training Programmes:

Plan and organise training programmes for personnel on all aspects of the development MIS.

20.6 Development of Software Programmes:

The following should be kept in mind:

Adaptability to multiple users: the software developed should be able to respond to the information demands from various monitoring bodies.

User Outputs: the software should be able to output information in the form of tables, charts, graphs, etc. as required by the user to monitor all or specific aspects of their activities.

Data (input) Handling Facility: the programmes should be capable of being updated/modified through simple data cards.

User Interface: the programme should be user-friendly, and have facility for easy storing, reporting and retrieval. The consultants should elicit and explicitate information requirements which may not be well articulated by the persons who are actually responsible for the information.

20.7 Mode of Consultancy Delivery

The consultancy is a turnkey job. The MIS development could have the following broad phases:

1. System Analysis
2. System Design and Coding
3. System implementation
4. Hardware installation
5. Software installation
6. User Training
7. Software Revision/refinement & support
8. Assistance in data processing and
9. Assistance in setting up sustained system management

Of these, phases 1 & 2 should cover the entire spectrum of activities (present and future) to be covered under the system and is to be the longest and most difficult phase. It is not feasible to treat the various components like M-book, stock register, RWS inventory, integrated approach, O & M, etc as isolated units. The system analysis/design should cover the entire parameters of RWS/Sanitation activities as being taken up now and are likely to be taken up in future. All the requirements (including the anticipated ones) should be identified, as they have system design implications and since it is generally difficult to 'add on' new areas in to the system once it is developed. During system analysis the following may be considered:

Development of MIS under UNIX environment.
Handling the problem of vertical integration.

The entire system with the manual of guidelines, software and training packages have to be validated and demonstrated as meeting the requirements, at the level of competence and efficiency sustainable by PRED.

The consultancy may also study the information management system under the NICNET and explore the feasibility of the PRED system being compatible with it, so that the data available may be accessed easily.

20.8 Expertise Required from the Consultants:

a. Social Sciences Expertise: experience in developing MIS for integrated rural development programmes, especially in water and sanitation sector proven ability in developing systems through a participatory process, involving fully the agencies and personnel responsible for data collection/processing.

b. Computer Expertise: competence in the analysis, design and development of computer based information systems, with deep knowledge on procedures and application of database software and insight into strategies for introduction of electronic

data processing in environments lacking sophisticated back up facilities.

c. Water/Sanitation Technology Expertise:

Competence in the area of technology/management of water and sanitation in Governmental set ups.

d. Interfacing Skills:

Ability to interface between sector and computer expertise, as that information system captures efficiently the complexities of the a sector where several agencies interact, and at various levels.

20.9 Strategy for Introduction of MIS:

The consultants should familiarize themselves with the information and management needs under RWS/S. This familiarization should include a discussion with RNE/Department of Rural Development/ Finance department/Technology Mission/PRED and its various activities, MIS development in other states, etc.

Since the MIS is oriented towards enhanced programme efficiency/ effectiveness, the consultancy should interact closely with personnel to be involved in the MIS, and win their support by ensuring that they have an overall understanding and commitment to the concept, strategy and need for MIS. They should also be able to appreciate the complexities of the systems within which PRED operates.

This requires specific focus on the information suppliers. Systems designed to address the needs of the implementing organisations at the field level are more effective and more palatable propositions. Such systems can be elaborated to also suit the information needs at higher levels without over-encumbering the reporting staff.

A consequence of this approach is that the development of MIS requires more time and resources, but this should be viewed as an indispensable contribution to institutional development and to a strengthening of their implementation capacity.

20.10 Feasibility Study on the Proposal:

The RNE fielded an identification mission by an MIS consultant - Dr. J. LAVRIJSEN - in November 1990. The consultant had several discussions with PRED/NAPO and made a field visit to Nalgonda district to acquaint himself at first hand with the information systems as presently practiced by PRED, and the district information system under the NICNET, being managed from the office of the district collector.

The consultancy has recommended the approach suggested by the TOR jointly drafted by PRED/NAP Office. The report was also discussed with RSM 24, who recommended that RNE initiate steps to include this proposal as part of the institution development of AP III.

20.11 Steps For Launching the Consultancy:

The consultant recommended that the National Industrial Development

Corporation (NIDC), New Delhi be invited to take up the consultancy, with a Dutch expert providing professional guidance/ monitoring on behalf of PRED/NAPO/RNE.

However, PRED has already pointed out during discussions with RSM and Sector Specialist - RNE, that the MIS development PRED is looking to is more than the mere computerization of existing formats/data bases. Ideally, PRED is looking for the transfer of know-how/expertise in MIS for RWS/Sanitation, as has already been developed in other countries.

Expert(s) identified jointly by the RNE/PRED/NAPO/RSM, with actual MIS development experience, are to be entrusted with the total MIS development responsibility. They should be fully involved in the entire process of system analysis, design, development, introduction and training. The expert(s) could avail of expertise in social dynamics and water/sanitation engineering as available within state/country. However the ultimate responsibility should be vested with the expert consultant.

Only if this is not feasible, PRED may go for local consultants. But at this stage it is premature to identify the consultancy firm as the NIDC. The approach recommended would be to float a tender for MIS development, under the over all monitoring of a team to be set up by GOAP, with the close involvement of NAPO/RNE. The Netherlands Government could field missions similar to present RSMs to extend review/support to MIS development Project.

20.12 Time Frame/Costs:

Phase I:	System analysis, design, development and implementation	....18 months
	Implementation of design	....12 months
Phase II:	Evaluation of total system, system refinement, institution development for system management	.... 6 months

Costs:

The budget proposals are based on figures indicated by Dr.J.Lavrijsen during the identification mission:

Consultancy costs for three years:	Rs.50.00 lakhs
External Consultancy:	Rs.20.00 lakhs
Preparation of Manuals/Modules	Rs. 5.00 lakhs
Training/Institutional Development:	Rs.20.00 lakhs
Computer Infrastructure:	Rs.20.00 lakhs
Contingencies:	Rs.10.00 lakhs
TOTAL	Rs.125.00 lakhs

However this budget may be considered as purely indicative of the various components to be funded under the MIS development.

Cost Sharing:

The following cost sharing pattern has been agreed to:

RNC (75%)	Rs.93.75 lakhs
GOAP (25%)	Rs.31.25 lakhs
TOTAL	Rs.125.00 lakhs

21. A TASK FORCE FOR INSTITUTION DEVELOPMENT

21.1 Why a Task Force:

As discussed above, HRD and MIS Development are seen by PRED as an integral part of institution development. In the face of challenges ahead, PRED needs to assess its existing capabilities in terms of personnel, skills, attitudes, knowledge, resources, organisation, procedures, institutions and identify the gaps and evolve plans for bridging the gaps, so that it is geared to the tasks ahead.

Personnel involved in the day to day running of the department, do have valuable insights into the areas where PRED needs to enhance its capabilities. But they may have little time to articulate these perceptions, and much less to evolve strategies and plans to actually take on this institution development.

Hence a task force will be set up for institution development, to identify areas where the department requires to change/modify/ further develop procedures, systems and institutions for equipping the department to respond to the sector realities and challenges ahead. Once key problem areas are identified, the team will also come up with specific and viable strategies for responding to the problems.

The team shall also evolve operational plans and project proposals for the same, discuss the plans with the donor agency (s) and do the needful for their positive appraisal and funding. Once the projects are funded, the team shall also be involved in their efficient implementation, post implementation follow up and institutionalisation. The team will function as a liaison between institution development programmes and the department, and also in the process build up expertise within PRED to carry forward the processes set in motion. The task force shall also work to generate ground level support for institution development by organising workshops, training programmes, etc.

In short the task force is to act as initiators of new ideas and work to convert them into reality. In fact, given the challenges involved, institution development is to be considered as a project in itself, even if for practical reasons, funds are mobilised as part of the various water supply projects.

21.2 Tasks:

The following areas have been tentatively identified as indicative of the tasks of the team:

- human resources development project posed to the RNE - interfacing between HRD efforts and the department
- supporting the consultancy services proposed for development

of an effective and efficient MIS, with the EE in the field as the nodal officer and proposing appropriate institutions for MIS management, upgradation, training of personnel

- organising an effective monitoring cell for the integrated approach and water quality surveillance
- developing strategies for community participation through NGOs and other peoples organisations
- developing an effective project planning/investigation/designs cell with capability for planning integrated water supply sanitation schemes
- developing strategies/institutions for community based O/M, including the ongoing village level water supply management study, preparation of o/m manuals for specific schemes.

21.3 It has been proposed that this task force participate in a planning workshop, in which Objective Oriented Project Planning methods will be adopted for conceptualising and opertionalising the strategies for Institution development. An expert from Management Development Foundation (MDF) is to be invited as will be the resource person for the workshop.

21.4 During this workshop, also strategies for setting up an institution Development Cell within PRED will receive special attention. The strategies for its initiation, the multi-disciplinary composition of the cell, the duties and responsibilites of the cell vis-a-vis the PRED and institution devevelopment programmes discussed in this document and connected administrative issues also will be taken up for consideration. Based on these deliberations, a sutiable time-bound action plan will be develpoed with task allocations, budget and in-built review mechanisms.

PART 6

OPERATION AND MAINTENANCE

22. OPERATION AND MAINTENANCE - PERSPECTIVES

22.1 Present Practices:

The over 1.66 lakh hand pumps are being maintained by a department managed system with GP/GOAP contributions pooled with the PRED. The budget allocation per hand pump is Rs. 360 per annum, of which Rs. 180 is recovered at source from the concerned GPs from out of the grants payable to them. In some districts maintenance is looked after under a three-tier system: district mobile team, mandal mechanic and village caretaker. However in other districts, the middle tier is now abolished.

With regard to MPWS/PWS schemes no such systematic approach has been developed, despite the fact that piped water supply schemes call for greater attention and expertise to ensure their proper O/M. Once the MPWS/PWS schemes are completed, they are handed over to the GPs. The CPWS schemes, however, are managed directly by the department, for which the PRED prepares annual O/M estimates. As in the case with hand pumps, 50% of the O/M cost is recovered through at source deductions from grants payable to the concerned GPs. In most cases, CPWS schemes are looked after by exclusive maintenance engineers from PRED. The GOAP share is budgeted for separately and not topped from capital funds.

Through a GO issued by GOAP, all bilaterally supported water supply schemes, whether comprehensive or individual, are being maintained directly by the PRED. This is different from the practice described earlier in this document.

The department has been permitted to spend 10% of the capital budget (except from external aid) on rehabilitation, special repairs and in some exceptional cases for O/M of schemes taken back from the GPs. This amounts to roughly Rs.3 to 4 crores per year. Apart from this, budget allocation of about Rs.1.5 crore is being made for maintenance of NAP schemes and other CPWS schemes, executed under regular programmes. Given the present trend, in the near future, the annual O/M expenditure is likely to reach around Rs.15 crores per annum.

22.2 A Critique of the O/M Practices:

Though the GPs are expected to meet O/M costs for PWS/MPWS schemes, in effect since the level of maintenance is poor, department has to spend large amounts on corrective maintenance. Since GPs do not have necessary technical/administrative competence, and no revenue unless the scheme provides for house connections, no preventive maintenance is generally taken up and corrective maintenance is tardy. No attempt is generally made to monitor the water quality.

Experience has shown that such arrangements are inadequate and impractical, especially with panchayats with poor revenue collection. Sooner or later, the department has to step in to put the scheme back on rails. On the other end of the spectrum, there are no conceivable arguments as to why, villages covered under CPWS should not share some of the O/M responsibilities. A fortiori, for the hand pump schemes, given their wide dispersal all over the state.

While departmental maintenance has certain advantages, in terms of assured availability of funds, personnel and accountabili y, on the other hand, there is the need to look at the long term re licability and sustainability - financial/ managerial - of GOAP/PRE directly looking after and financing O/M of schemes, especially si ce the number of piped water supply schemes are increasing each ear.

Both in terms of viability and in terms of positive impac of the scheme, it is the explicit policy declaration under the V II plan that O/M of all water supply schemes should be the respon ibility of the community served by it. The departmental services are to be limited to technical\ managerial\training support to the P and to monitoring of functioning and quality of supply. The O/M responsibility is to be transferred fully to the Gram Pan hayats, at the same time building in safeguards to ensure that the p esent experiences will not reoccur.

It has been felt that a more systematic approach is requi ed along with budget and manpower planning to respond to the O&M p oblems of borewells fitted with handpumps/MPWS/PWS/CPWS. The whole sue needs to be studied carefully, and hard data made available to uide policy decisions. It was therefore decided that PRED and NAP Office would together take up a study on the effectiveness of ex sting O&M practices, assessing their viability/effectiveness, and r commending viable, sustainable and replicable community focussed ins itutions for O/M of rural water supply schemes, at the sector leve as a whole. In fact the study is well on its way. It is hoped t at the preliminary reports will be available before the appraisal mission, and that some of the recommendations can be built into the detailed O/M planning for AP III Nalgonda.

22.3 Objectives of the Study:

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

A multi-disciplinary team consisting of PRED engineers, in stitution/ finance expert, social scientists and later on involving administrators, policy makers and opinion leaders are to b involved in various phases of the study, through workshops, consult tions and seminars.

The study team shall collect, assemble and analyse primary and secondary data on the following areas related to O/M of Ru al Water Supply in AP:

1. Efficiency/sustainability/level of functioning of all types of rural water supply schemes in 7 mandals of 7 distric s in AP, and the nature of and reasons for recurring O/M pro lems

2. Feasible/sustainable/replicable and viable options f r: technical, administrative, financial, institutional arrangements for O/M of rural water supply, and for n service training of personnel

3. Specific areas of responsibility under the options proposed for: PRED, GP, community, any other agency

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The feasibility of adopting uniform norms for funding of schemes, whether under state or centrally sponsored programmes will also be studied. Procedures for initiating discussions with the community, including informal leaders/women, and for ensuring their involvement in cost and responsibility sharing for O/M are also to be considered.

22.4 Design of the Study:

Phase 1: The PRED Committee constituted by the GOAP, assisted by the external team studies the O/M procedures and practices in the selected seven mandals and makes recommendations designed to enhance their effectiveness, efficiency and sustainability and for responsibility/cost sharing with the GP and the community (including especially women).

Phase 2: PRED takes up the recommendations with the GOAP for sanction and then proceed to implement the recommendations in the study mandals

Phase 3: The team and the institutions now introduced monitor the impact of implementation of the recommendations and assess if the desired results have been achieved or not and make final recommendations for improved o/m institutional arrangements/ changes/strengthening for the total rws sector.

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

a. it is not feasible for financial/administrative reasons that GOAP assume O/M responsibility

b. for the time being, at least 50% of O/M costs have to be shared by the users as recommended by the financial commission

c. when thinking of institutional viability, the unit of operation need not necessarily correspond with a mandal However, at the ground level, the GP is to be considered as the local unit.

d. O/M cost sharing need not necessarily mean that each GP 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.

23. O/M OF NAP SCHEMES

Until the recommendations of the study are available, the procedures adopted for the O/M of NAP schemes will be as earlier agreed to, directly under the control and responsibility of PRED.

23.1 AP I Schemes:

O/M of the 201 schemes under AP I is currently under PRED control. The annual O/M estimate is currently Rs. 65 lakhs. A revised

estimate of Rs. 91 lakhs is under scrutiny. A large number of schemes, 155 villages in Prakasam and 21 schemes in Guntur are looked after by an exclusive maintenance division located at Darsi.

23.2 AP II Schemes:

O/M estimates for the AP II schemes have been finalised in consultation with NAP Office and technical sanction have been accorded. Administrative sanctions are awaited. In the meantime, the execution divisions will look after O/M of commissioned schemes, meeting the cost form the establishment charges provided under the projects, as per existing norms. It is proposed to open exclusive maintenance sub-divisions for the Medak, Mahabubnagar and Kurnool schemes, while the Parchur schemes will be looked after by a sub-division attached to the Darsi Maintenance Division.

Project	Pop (lakhs) Prsnt	Ultmte	O/M Est in Lakhs	Cost/1000 Litres	Cost/capita Prsnt	Ultmte
Prakasam	1.53	2.46	62.50	1.16	40.85	25.42
Kurnool	1.08	1.79	72.50	1.84	67.13	40.50
Medak	1.08	1.99	79.74	2.97	73.83	40.07
M'Nagar	0.66	1.06	36.70	1.57	55.61	34.62
	4.35	7.30	251.44	1.89	57.80	34.44

In terms of annual O/M cost as percentage of capital cost, the situation of AP II schemes are as follows:

Project	Rev. Estmte (in lakhs)	O/M Est in Lakhs	O/M as % of Cptl Cost
Prakasam	900.00	62.50	6.94
Kurnool	950.00	72.50	7.63
Medak	840.00	79.74	9.49
M'Nagar	698.00	36.70	5.25
TOTAL	3388.00	251.44	7.42

23.3 Documentation of Experiences under AP I and II:

PRED and NAP Office, in some cases assisted by external consultants, and supported by RSMs, have been involved in several exercises for improving the efficiency of O/M and for evolving standardized procedures and norms for O/M. Such steps include:

a. Study/recommendations on chlorination
b. Guidelines for pumping arrangements/provision of standby pumps
c. Preparation of a general O/M manual, setting down standards and guidelines for planning/estimating O/M
d. Preparation of scheme specific O/M manuals
e. Scheme specific training/planning workshops for operators
f. External evaluation of the functioning of AP I schemes

It is now planned to set up a study team to more systematically document all the experiences and insights regarding operation and

maintenance, and formulate guidelines for all RWS schemes. Findings of the study along with the recommendations of the Village Level Water Supply Management Study, together will assist PRED in developing norms for a more efficient O/M institutions.

23.4 Tentative O/M Plans for AP III Nalgonda:

In order to generate some revenue for O&M provisions have been made under this project to provide at least 25% house connections The revenue from down payments and from monthly tariffs will contribute to improved O&M of the project.

Further since Arthik Samata Mandal is to take up community participation activities right from the start of the project the involvement of the people and of the Gram Panchayats both in the execution and maintenance of schemes can be considerably enhanced. The community will be involved fully in location of public standposts and in the village level preventive maintenance of water supply, sanitation around public standposts and ground level service reservoirs, etc.

The designs developed for water supply outlets (public standposts and GLSRs), will have built in provisions for drainage and for preventive contamination of water. This will be supported by health education programmes taken up by Arthik Samata Mandal. Under sanitation programme it is proposed to take up also sanitation around water supply and environmental/domestic sanitation programmes.

Chlorination will receive adequate attention right at the design stage itself to ensure that a residual chlorine of Ø.2 ppm is maintained at the tap level. The estimates contain provisions for chlorinators and booster chlorination. In order to ensure regular supply despite low voltage/power breakdown problems, the estimates contain provisions for generators/diesel engines to be provided at all pumping stations.

Under the proposed Human Resources Development programme extensive O&M training will be provided for all staff to be involved in the maintenance of the scheme. The department will impart training also to community leaders and people in cooperation with the Non Governmental Organisation. The NGO is also planning to organise visits by community leaders to the project headworks, etc. so that their involvement and sense of belonging among the people can be improved. The department will organise monthly and quarterly review/coordination meetings with Arthik Samata Mandal to facilitate community participation.

The department will finalise annual O&M estimates and submit for approval to higher authorities. These estimates will provide for O&M supervisory and operating personnel, preventive and corrective maintenance, cost of chemicals, spares, accessories, payment of power supply, etc. A tentative O&M estimate is annexed to this report. The proposal is for an exclusive O&M Division, including an Executive Engineer and 4 Dy.Executive Engineers. The tentative estimate is Rs.280.ØØ lakhs. The per capita cost works to Rs.38/- for the 1992 population and Rs.31.9Ø for the designed population. Cost per 1ØØØ litres works to Rs.1.6Ø.

4. 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.

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

6. Data on willingness and ability to pay

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

8. 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.

Though it is recommended that O/M of schemes can be handed over to the gram panchayats as follows: hand pumps/MPWS/PWS - totally, CPWS Schemes from service reservoirs to distribution, it is felt that gram panchayats would be interested in O/M of schemes and in cost sharing/recovery only if they can raise some revenue from the scheme. This is possible if the scheme can have private connections, for which beneficiaries can be charged.

The AP Gram Panchayats Act 1964 (section 75) empowers the GPs to impose tariff for drinking water. Nevertheless, the State Committee on Panchayati Raj Institutions, in its 1981 report has agreed to the fact the power is seldom invoked by the GPs. And as long as the revenue generation at GP level remains poor, water supply schemes will be the first casualty. The state committee has recommended that the 1964 act could be amended so as to provide compulsory levy of water tax as percentage of property tax. Also house connection charges and monthly tariff on them have been recommended.

The collection and management of such revenue and the modalities through which this management is done as close to the people as possible need to be examined. Further, in order to ensure involvement of people, arrangements such as water committee, village level care taker etc. may be required. Concrete proposals are to be developed regarding their selection, appointment, status, remuneration, responsibilities, accountability, guidance and training etc.

Operation and maintenance has preventive and corrective dimensions. The areas to be covered by gram panchayats and by PRED, and the supervisory role of PRED etc. have to be studied. Personnel responsible for O/M, their training and in service skill upgradation, job descriptions and thumb rules etc to be locked into O/M manuals need to be developed for completed schemes. Procedures to be developed for preparation of such manuals are to be recommended.

External and internal water quality monitoring is another area where procedures have to be clearly established.

Another area covered will be the adequacy of the design parameters adopted, as against capital constraints and subsequent O/M issues.

23.5 Possible Options for Cost/Responsibility Sharing with Communit :

The Village Level Water Supply Management Study will make recommendations regarding the feasible options under which operation and maintenance of the two CPWS schemes under AP III Nalgonda an be shared with GPs. One of the options to be considered will be: department maintaining the headworks and transmission mains, a d GPs maintaining the village level distribution network. Under this option, PRED could bulk supply water to the GPs, leaving with he responsibility for management at village level.

Though the design provides for 25% private connections, the modalities for providing these connections and contributions t wards maintenance costs in the form of tariff and initial down payme t are to be finalised. Further it is to be studied whether additional funds can be generated by providing group connections and thro gh general tariff attached to property. The modalities for the administration of such funds, as also procedures governing appointment and training of village level care takers, responsibility sharing between PRED/GP, institutions for overa l management, etc. are yet to be worked out.

The ASM will be fully involved in developing such community ba ed O/M institutions. Wherever necessary, modifications will be ma le in the design of supply outlets, to respond to community requirem nts, keeping in mind the overall design parameters.

24. WATER QUALITY MONITORING

24.1 Panchayati Raj Engineering Department has already established/ ill soon establish Internal Water Quality Monitoring Laboratories n all the districts to carry out the required tests and suggest the treatment/ preventive/emergent measures to be adopted for maintaining the safety and quality standards of drinking water Under the project provisions have been made for strengthening he internal lab and for training of analysts. Smaller labs will b set up at both the head works as is being done under AP II.

24.2 Apart from internal monitoring, the Institute of Preventive Me icine is being assisted by the Netherlands Government for setting up 8 external water quality monitoring labs. One of these labs is eing set up at Nalgonda. The IPM in consultation with PRED will establish standing procedures for independently monitoring th quality of water. Such monitoring is already initiated in Kris na district with the Vijayawada lab as the nodal point and involv ng all the four Executive Engineers of the district. An instituti n for review and follow up is also set up at the state level, conven d by E-n-C/PRED with the Director Medical and Health Services, Dire tor IPM and Advisor NAP as members.

The same arrangements will be extended to Nalgonda District and specifically to AP III Nalgonda scheme.

Part 7

EXECUTION/MONITORING/COORDINATION

25. OPERATIONAL PLANS

As noted earlier, it has been decided that AP III Nalgonda will be broken up into two phases and that the appraisal will cover only the first phase. However, almost all the collaborating agencies had completed the formulation of their project proposals for the total Nalgonda, well before this decision was taken. As such only the water supply construction proposal is specifically designed and estimated to cover phase 1.

25.1 Operational plans for Community Based Support Activities:

The strategy adopted for Community Based Support Activities was to allocate a specific percentage of their budget proposals for phase 1, keeping in mind the nature of the project and the facility with which the initial take off can be achieved. With regard to Institution Development, the budget allocation is based on the assessment of the ground that can be covered during the period 1992-94.

It has to be noted that the total project period is projected as 6 years, even though each individual phase is for 4 years each. The proposals for all community based activities are planned for this 6 year period, with the provision that the actual coverage in terms of villages will be limited to phase 1 during the first two years, and that as soon as in principle approval for phase 2 is obtained, intervention/ organisation will be spread to these villages, even before the water supply construction actually begins. In fact only the sanitation project is linked in time to the water supply construction programme. Even here, given the fact in several of the project villages, the proposals are for augmentation, there is the possibility of initiating the preparatory activities related to sanitation promotion. Besides, for most of these agencies, infrastructure development and personnel mobilisation/training at the project level cannot be broken up into two phases in a significant manner. Phase 2 will mean only an extension in terms of coverage, with a mid course-review/corrections.

However, immediately after appraisal, agencies to be involved in Community Based Support Activities (ASM/ICDS/SERIFED/NARMUL) will be requested to prepare specific operational plans for phase 1 keeping in mind the budget allocations and time frame.

25.2 Operational Plans for Water Supply Construction:

a. Phase 1 covering 82 villages and 99 hamlets in the northern part of the project, and covering Nalgonda, Chandur, Munugode, Narayanpur, Choutappal, Chitiyal, Narketpally areas with a comprehensive protected water supply scheme with Nagarjuna Left Canal as source for most of the year, and the Nidamanur summer storage tank of the Public Health Engineering Department's Nalgonda Municipal water supply as source for the estimated canal closure period of 45 days.

76 of these villages, along with their hamlets, have fluoride problems, while 6 come under scarcity criterion. In addressing these problems, 54 villages come under supply of fluoride free

water to existing schemes along with augmentation of internal distribution, while 28 villages are being provided with a protected water supply system for the first time.

The project execution period is 4 years: 1992-96.

b. Phase 2 covering 144 villages and 238 hamlets in the southern part of the project, and covering Peddavoora, Mallepalli, Chinthapalli, Marriguda, Nampally, Gurramguda, K.B. Pally areas with a second comprehensive protected water supply scheme with Alwal Minor Irrigation Tank, drawing water from the Nagarjuna Left Canal as source.

170 of these villages, along with their hamlets, have fluoride problems, while 50 come under the scarcity criterion. 142 villages come under supply of fluoride free water to existing schemes along with augmentation of internal distribution, while 84 villages are being provided with a protected water supply system for the first time.

The project execution period is 4 years: 1994-98.

Detailed investigations for Phase 1 have already been initiated. However, immediately after appraisal, PRED will take the following steps:

a. mobilisation of key project execution staff and finalisation of detailed estimates involving these key personnel

b. preparation of project planning/management/control tools keeping in mind the procedures adopted under NAP AP II and after evaluating the experiences under APCERP.

c. finalisation of procedures to be adopted for tendering and awarding of works.

d. preparation of tender schedules

e. Procedures connected with the mobilisation of execution staff, their training, mobility of field staff

It is hoped that these steps will considerable reduce the time-gap between project take off and formal exchange of side letters and release of funds.

25.3 Operational Plans for Institution Development:

This component, though included under AP III Nalgonda for administrative reasons, will in effect be considered as an independent project. The linkages with AP III Nalgonda will be to the extent of it providing a context and field reference.

Operational plans will be discussed and finalised during the proposed Objective Oriented Project Planning Workshop to be organised in early October, involving PRED/NAPO/RSM/RNE and conducted under the expert guidance of Management Development Foundation, the Netherlands.

26. MONITORING/COORDINATION

26.1 Institutional Arrangements:

a. State Level: Apex Steering Committee headed by the Chief Secretary, with the Secretaries of the departments of Health, Education, Irrigation, Food, Animal Husbandry and Dairying, Panchayati Raj, the Sectorspecialist - RNE, and the Engineer-in-Chief as members. The E-n-C is the convenor. Chief Functionaries of the implementing agencies and NAP Office as resource persons to this committee. The Apex is to meet once in six months, and as often as found necessary.

b. Nodal Agency: PRED assisted by the NAP Cell in the office of the E-n-C. Given the increased role of the PRED, the coordination/monitoring wing is to be further strengthened under the institution development plans and made a multi-disciplinary team. This wing will convene monthly review meetings with the NAP-PRED, monthly co-ordination meetings with NAP Office, and quarterly progress reviews involving all the agencies participating in the project.

c. District Level: An exclusive NAP-PRED Circle headed by a superintending Engineer (Hyderabad) and two Divisions. The Superintending Engineer is the chairperson of the District Project Committee involving District level project agencies and health/education departments. The DPC will meet once in a quarter.

d. Project Level: The Executive Engineer is the chairperson of the Project Coordination Committee involving the PRED and ASM. As often as found necessary, representatives of the implementing agencies and mandal level PR&RD officials will be invited to participate. The PCC will meet once a month.

e. Village Level: The Village Action Committee set up by ASM and involving a cross section of the community - especially women, the sarpanch and women members of the GP, PRED ground level operators, school teachers and PHC staff, anganwadi worker, etc.

26.2 Each of the project implementing agencies will monitor their programmes both at the district and at state level. They will report progress both physical and financial to the E-n-C. These reports will be scrutinised by the coordination cell, and reviewed with the personnel involved in execution. Subsequently, the claims will be forwarded to NAP Office for forwarding to RNE for reimbursements. While the routing of the reimbursements will be as indicated else where, the coordination cell will be kept informed of the releases.

Till coordination skills are developed in the PRED, the assistance of NAP Office will be requested and the personnel of the coordination wing will interact closely with NAP Office in review, coordination, monitoring, field visits, organisation and conduct of training programmes, etc.

26.3 At the village level, ASM will be the primary pivotal agent. They are to form Village Action Committees which will eventually act as an interface between the community and the PRED and will assume joint responsibility with the department for operation and maintenance at the village level. Wherever necessary, ASM will initiate the setting up of forums at the mandal level for representatives of VACs and of other 'people's organisations. However, these shall be informal organisations.

26.7 Institutional arrangements for operation and maintenance will be set up as per recommendations of the Village Level Water Supply Management Study.

26.8 Physical and financial progress monitoring proforma and procedures will be developed in consultation with NAP Office. Similarly steps to be adopted for impact monitoring and mid-course evaluation will be developed with the support of NAP Office. They will be further amplified and refined under the proposed MIS consultancy.

27. RELEASE OF FUNDS

As indicated in the POLICY Framework Document, the following procedures may be adopted for the management of Project Funds:

27.1 PRED:

All project expenditures are to be incurred from the sanctioned budgets of the department. PRED has already provided budgetary provisions for the AP III projects, both within the VIII plan and within the current Annual Plan.

25% of the agreed to 85 % RNE share of the cost of water supply construction component may be released as pre-finance to GOI. Subsequently, PRED will make quarterly reimbursement claims through GOAP/GOI. 85% of the claim may be reimbursed to GOI. This procedure may be adopted, till the committed RNE amount is reached. Claims will include financial progress as correlated to physical progress and indicate anticipated expenditure for further quarters.

At the E-n-C level, releases will be made to the EEs responsible for project execution on a quarterly basis, tapping the budget allocations under the annual plan. EEs will present monthly and quarterly financial/physical progress reports.

As far the sanitation programme is concerned, in consultation with NAP Office/ASM, PRED will indicate to RNE through GOI when the programme is to be launched. RNE may release 25% of the total budget as pre-finance through GOI. The other procedures shall be the same as adopted for the water supply construction programme. However, reimbursements may be limited to 75% of the expenditure incurred and claimed.

Regarding Institution Development Projects, the funding pattern will depend on the type of consultancy supports planned. After, the modalities are finalised, PRED shall inform GOAP/GOI, and a pre-financing of 25% of the costs to be incurred directly by PRED shall be released to GOI. Wherever, foreign experts/training abroad/supply of resource material from abroad, etc. are involved, payments may be made directly by the RNE and intimated to GOI/GOAP/PRED/NAP Office. For all expenditures directly incurred by PRED, claims from GOAP shall be reimbursed upto 75% of the project costs earmarked for expenditure through PRED, and until the committed RNG amount reached, including agreed to reserves for expenditures to be incurred directly by RNE.

27.2 Arthik Samatha Mandal:

After agreement is entered into with ASM by the RNE, duly specifying the monitoring/coordination responsibilities of PRED/NAP Office, an amount equivalent to the initial non-recurring expenditures and recurring expenditure for 6 months, may be advanced to it directly by the RNE, under intimation to PRED/NAP Office. As ASM is a registered organisation and has a Foreign Regulations Act registration for receiving external assistance, expenditures will be accounted to GOI through these channels.

Quarterly progress reports and expenditure statements shall be forwarded to PRED/NAP Office. PRED shall forward the expenditure statements to NAP Office for forwarding to RNE. On a quarterly basis, the recurring expenditure shall be reimbursed to ASM under intimation to PRED.

27.3 Nalgonda-Rangareddy Districts Milk Producers Coop Limited:

For all practical purposes the procedures adopted shall be the same as for ASM. The agreement may be entered into with the General manager, building into it clauses governing the responsibilities of AP Dairy Federation, PRED and NAP Office. Since NARMUL is a quasi-governmental undertaking, reporting to GOAP/GOI will take place through its own channels.

27.4 Serifed and Women's Development and Child Welfare Department:

Since the status of the Managing Director of Serifed and of the Director cum Ex Officio Secretary to the Government of the Women's and Child welfare Department are comparable to that of Director, Institute of Preventive Medicine, the procedures adopted shall be the same as those followed for entering into agreement with IPM for setting up the external labs under AP II. They will directly enter into agreements with RNE and releases may be made to them directly. Claims will be processed through PRED/NAP Office.

28. HUMAN RESOURCES DEVELOPMENT

Each of the project proposals contain plans and budget proposals for HRD both for the project personnel and for the community. Initially NAP Office, and subsequently the HRD wing of PRED will provide resource support and orientation to water and sanitation specifics.

The HRD proposals for personnel of PRED are contained in the HRD document included in this project. It is planned that both community

participation and integrated approach will receive special focus under the HRD. The proposed regional training centres can also cater to the training requirements of the village level functionaries especially of the water supply system. Similarly, team training programmes can be managed under the HRD.

29. PROJECT SUSTAINABILITY

The Phase I coverage is 2.256 lakhs as per projected 1992 population and the 30 year design population is 4.090 lakhs. Given the cost of the water supply construction component as Rs. 3863.00 lakhs, the per capita cost on design population works out to Rs. 946.81. The Phase II coverage is 2.569 lakhs as per projected 1992 population and the 30 year design population is 4.693 lakhs. Given the cost of the water supply construction component as Rs.5879.00 lakhs, the per capita cost on design population works out to Rs.1252.72. The per capita cost for the total water supply construction component works out to Rs.1110.36 for the design population. The per capita cost is working out so high for three reasons: the long distances in transporting fluoride free water, the increased per capita supply, and provision for standby arrangements for pumps and additional storage capacities in clear water sumps.

Under the present policy of the GOI, capital expenditures and capital depreciation cost will be met from plan funds, since water supply is budgeted under Social Services. 50% of the recurring annual O & M cost are to be met by the community and the remaining 50% subsidised by the government under non-plan expenditures. This is feasible under the Nalgonda project, especially since 25% house connections (about 1.25 lakh connections) are provided for in the design. Both down payments for sanctioning connections (about Rs.1500/- per connection), and monthly tariff for house connections should generate adequate revenue for O & M and for special repairs. As far as training of village level operators is concerned, budgetary provisions under HRD will take care of the cost. Institutions for O & M will be as recommended by the Village Level Water Supply Management Study.

The total investment on community based support activities is Rs.1743.729 lakhs. This works to Rs.198.74 per capita. This investment will generate an almost equal amount as an additionality in terms of loans and subsidies and investments under ICDS/Sericulture Department/ Operation Flood under dairy programme, etc. Further, all these agencies have given an undertaking that the programmes initiated under the project will be maintained by the concerned agencies. In this way, the infrastructure and trained man-power created under the project will be long term investment for the project villages.

Further, ASM has given an undertaking to maintain a continued presence in the project villages to carry forward the participatory processes initiated during the project. The village level organisations set up both by the ASM (VACs) and the primary co-ops set up by the NARMUL and SERIFED and the anganwadis initiated by the ICDS will also serve as focal points for such peoples development actions.

Hopefully, the emphasis the PRED is placing on institutionalising the integrated and participatory approach, will give a fillip to all these activities.

Part 8

ANNEXURES

VILLAGE ACTION COMMITTEE

1. Introduction

Participatory process is understood as a process of facilitating and supporting peoples' own effort towards self improvement and self reliance. External interventions are only promotive. People take the primary responsibility for identifying their own development needs and for organising themselves to respond to these felt needs.

Within the parameters of this project participation must assume a more limited meaning. Given the nature of the intervention as essentially external, and with a macro-orientation, participation can be perceived only as efforts to actively involve the target population in the planning, implementation and maintenance of the program.

2. Village Level Action Committees

a. Formation:

VACs will be organised in all project villages/hamlets. The NGO will be responsible for this organisational work. The NGO will initiate participation of the community and especially the women in the planning, implementation and maintenance of the program at the village level, in close collaboration with the gram panchayat.

The NGO will mobilise neighbourhood groups around public water stand posts and then organise representatives of these groups into VACs. Wherever necessary representatives of the Panchayat Board especially mahila members, village level health/water supply functionaries, school teachers, anganwadi workers, adult education animators, etc. may be included in these committees. The Panchayat President will be the convenor of the VAC.

The strength of the VACs would be between 9 to 21 depending on the population of the village, including the hamlets.

The organisation of peoples' committee will be limited to the village levels. Beyond this level the existing mandal set up may be utilised, as and when required.

b. Tasks and functions of VACs:

To bring the project to the village and to organise people around it. This task would include:

1. assisting the NGO in preparing a village profile
2. village level study of the projects in terms of its concepts, components and delivery system, leading to program development and modifications

3. dissemination of information in the village so that the people in the village will be able to understand and participate in the project to the fullest extent.
4. with the technical assistance of PRED select the locations for PSPs, tanks etc.
5. ensure proper use of the water supply and of the maintenance of the system through the appointment of village level operators. Fix the rate of contribution from the families and facilitate the collection of this tariff by the operators.
6. wherever sanitation program have to be taken up the tasks of the VACs will be as indicated in the sanitation document.

LIST OF MANDALS COVERED UNDER AP III NALGONDA

S.NO	MANDAL	VLLGS	HMLTS	TOT	POP/1922	POP/2022	VIL NOT
1	Gurrampode	28	34	62	38677	70004	-
2	Nampally	27	30	57	37168	67297	1
3	Munugode	20	19	39	39927	62447	2
4	Narayanpur	14	58	72	41395	74939	-
5	Chandur	16	17	33	43437	78684	-
6	Marriguda	18	33	51	39065	72716	-
7	Chintapally	20	27	47	39632	73827	2
8	Choutuppal	6	13	19	24873	45019	12
9	Nalgonda	9	8	17	22775	41214	19
10	Narkatpalli	10	12	22	30962	55366	9
11	Chityal	14	8	22	42837	77582	2
12	Devarakonda	10	31	41	17093	30951	19
13	P.Adisserlapalli	17	31	48	31338	56761	6
14	Kangal	3	2	5	9399	17013	22
15	Peddavoora	8	13	21	15590	28219	16
16	Anumula	6	1	7	8998	15202	16
	TOTAL	226	337	563	482639	877180	126

LIST OF VILLAGES AND HAMLETS COVERED UNDER PHASE I:

ZONE I

TOTAL NO. OF VILLAGES : 22
TOTAL NO. OF HAMLETS : 14

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Marriguda		2.	Buddaram	
3.	Appajipet	Narloniguda Bottuguda	4.	Avaravani	
5.	Vellemla	Kothaguda	6.	Chandrampalli	
7.	Elikatta		8.	Rathipalli	
9.	Neereda	G.Reddipalli	10.	Urumadala	
11.	Chityala	Venkatapuram Pochambaviguda	12.	Shivaneniguda	
13.	Vanipakala		14.	Mandra	
15.	Wattimarthi		16.	Anaparthi	
17.	Y.Reddyguda	Dasariguda Seshabaviguda C.Rayananpur Kondapakagudem	18.	Cheruvugattu	Gummalabavi Enuguladori
19.	Narketpalli	Gopalapalli Chintabaviguda	20.	M.Yedavalli	
21.	Nimmani		22.	Cherlapalli	

ZONE 2:

TOTAL NO. OF VILLAGES: 60
TOTAL NO. OF HAMLETS: 85

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Bugarigdda	Gollaguda Papireddiguda	2.	Angadipet	
3.	Chandur	Lakkineniguda	4.	Kastala	
5.	Ponugode	Ramachandrapur	6.	U.thalapally	P.malathanda Yotavaliguda Kubbakaguda
7.	Ragatta		8.	Idikuda	Turkoniguda
9.	Pullemla	Singoronibavi Marribhavi	10.	Bondangparthy	
11.	Sirdepally	Gollaguda	12.	Munugode	Kammaguda Battakalva L.deviguda Turpuguda Somabatta Mangellaguda Nattoniguda
13.	Chollede	Gollaguda	14.	Chikatimamidi	Kammaguda Erukalaguda
15.	Kompalli	Turupuguda Padamatiguda	16.	Kalvakuntla	Ballvaniguda
17.	Kondapur		18.	Yelmakanne	Kashollaguda
(19)	Utlapally	Ganganayak thanda Kashyathanda Jagyaram Tanda	(20)	Parvedla	Pathy Tanda Suddabai Tanda Bettu Thanda

Sl. No.	Revenue Village	Hamlets
19.	Puttapaka	Baltonibai
		Saigonibai
		Mathuroniguda
21.	Narayanpur	G.Nagarthanda
		Kurmakaeharam
23.	Chelmeda	
25.	Kothlaram	Madupugudem
27.	K.K.Guda	Suriguda
		Narammabavi
		Lovodithanda
29.	Kothulapur	Madupugudem
31.	Thagadpally	Chintalaguda
		Dhamera
33.	Lakkaram	Dharmogiguda
35.	Lingojiguda	Ankireddiguda
		Gilleduchelk
		Katur
37.	Gundrampalli	
39.	Peddakaparthi	
41.	Bongonicheruvu	
43.	Kachlapuram	
45.	Ukondi	
47.	T.Vellamla	Vembavi
49.	Chinakprthi	Mosuguda
		Boyagubba
		Yenuguladori
52.	Jamistanpally	
54.	Kalwapalli	
56.	Kakulakondaram	Ramulabanda
58.	Koratikal	Dubbakalva
60.	Solipur	

Sl. No.	Revenue Village	Hamlets
20.	Kothaguda	Kurmaguda
		Gagulonibavi
22.	Servel	Moroniguda
		Rajammabavi
		Malreddiguda
		Lingvariguda
		Thurkoniguda
		Devirediguda
		Chittambavi
		Yerrakunta
		E.devichruvu
		Gollaguda
24.	Gujja	Kammaguda
		P.baviguda
		Mariguda
		B.marlaguda
		Thangellguda
26.	Chimriyal	S.bhaviguda
		Bantonibhavi
		Marribhavi
28.	Mohammadabad	V.B.L.Thanda
		E.Dhubpthnda
30.	G.Malkapur	
32.	Choutuppal	L.reddiguda
34.	Thalasingaram	
36.	Panthangi	Aregudem
		Reddibai
		Gundlabai
		Thumbai
		Saidabad
38.	Aipur	Isathigudem
40.	Pitlampalli	
42.	Perepalli	
44.	Palvela	
46.	Singaram	
48.	Ipparti	
50.	Kistapur	
51.	Gudapur	
53.	Pulipalpula	B.valliguda
		Gangoliguda
55.	Kanchnpalli	Deepakunta
57.	Donekal	
59.	P.Domalplly	M.Domalpally
		Mallubaviguda
		Gollaguda
		P.pallyguda

PHASE II - ZONE 1:

TOTAL NO. OF VILLAGES: 16
TOTAL NO. OF HAMLETS : 19

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Alwal		2.	Chintapally	C.Thanda (East)
				"	(West)
3.	Peddavoora	Bhattiguda	4.	Mosangi	
		Kothaguda			
		Ellullagudem			
5.	Chepur	Konniguda.	6.	Bollaram	
		Bapanaguda			
		Battuguda			
		Teretiguda			
7.	Nadikuda		8.	Mukkumala	
9.	Venkatadripalem		10.	Korsalamarri	
11.	Yacharam	Kochollaguda	12.	Koppole	Elamlapahad
					Venkatupur
					Koyagronibai
					Buddareddiguda
					Bodapahad
					Lakshmideviguda
					Agragudem
13.	Gowraram		14.	Thurkapalli	Agalapur
15.	Marapalli		16.	Kothulapur	

PHASE II - ZONE 2:

TOTAL NO. OF VILLAGES : 20
TOTAL NO. OF HAMLETS : 27

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Pallepahad		2.	Kacharam	
3.	G.Bhimpally	Rayanipalem	4.	Keshavanipally	
		Jinukalavaniguda			
5.	Ghanpally		6.	Polkampally	
7.	Gudipally	Bharathpur	8.	Ghanpur	Kodandapur
		Nadimbaigudem			Munavat Tanda
		Singa Rajupally			Ghanpur gate
		Chigullaguda			
9.	G.Nemalipur		10.	Madhapur	
11.	Pinnavura		12.	Medaram	Rangareddy guda
13.	Thirumalagiri				Madharigudem
			14.	Dugyal	Pilligundla Tanda
15.	Pothunur		16.	Singaram	
17.	Pulicherla	KomatiKunta Tanda	18.	Waddipatla	Chintala Tanda
		Yerrakunta Tanda			Padamati Tanda
					Palugu Tanda
					Hamugoni Tanda
					Puttagandhi Tanda
					Pavurala Tanda

PHASE II - ZONE 3:

TOTAL NO. OF VILLAGES : 48
TOTAL NO. OF HAMLETS : 81

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Gurrampode a) Waddireddyguda b) Upparigudem		2.	Chamled	Bantuguda Kothoniguda Peddabhaiguda Pittalguda
3.	Tenepally	Satyagopu Thanda Chintaguda Kothaniguda	4.	Mulkalpally	
5.	G.Malleplly	Bantuguda	6.	Ootlapallyt	
7.	Sultanpur	Padamvariguda Juviguda Thanda Jinnai Chintha	8.	Juvviguda	Thandaripally
9.	Junuthala	Velloniguda Medibaiguda Rajyagari Tanda	10.	Makkapalli	
11.	Mylapur		12.	Thummalapally	
13.	Kondapur		14.	Shakajpur	
15.	Parlapalli		16.	Palwai	Mondi Kani Tanda
17.	Surepally		18.	Gummadivalli	
19.	Kalwapalli	Vaddariguda	20.	Chintaguda	
21.	Reballi		22.	Medlavai	
23.	Fakeerpur		24.	Sunkisala	Pothimeedi Tanda
25.	B.Thimmapur		26.	Pagidipally	
27.	Mustipally	Raja Naik Tanda Botai Tanda Munti Tanda Persai Tanda Rathgoni tanda	28.	K.Mallepally	Mallepally X Rd Chinmoriguda Pacheti bai Gourikunthatanda Buddoni Tanda Natyala Tanda Geeja Tanda Pathlavathi tanda
29.	Kolumun-thala pad	Kothabai Ramunigudla Tanda Kindi Tanda Kesao Tanda Jaggaiah Tanda	30.	Donial	Reddiyagani tanda
31.	Chntakuntla	Korroni Tanda Chinmanbai Tanda Deshmuk Tanda Palapatla Tanda Modugundla Tanda	32.	Fakirpur	
33.	Mallapur		34.	Pendlipakala	Pendlipakal Tanda Islabad Tanda Honica Tanda Barodhgani Tanda
35.	C.A.Palli	Eaddiya Tanda	36.	Chilkamarri	Peddabaiguda

37.	Kolekal		38.	P.A.Palli	Angadipet Pothireddypalli Akkinepally Pogakaniguda Ramapur Mangali Tanda Pole Pally Tanda Romavatha Tanda Nenavath Tanda Suryagani Tanda
39.	Chennaram	Gemyanaik Tanda Komyanaik Tanda Anubothu Tanda Gurula Tanda	40.	Serlpally	Pedda Tanda Jaliya Tanda Ratya Tanda
41.	Devathaplly	Kusuma Tanda Rekya Tanda Devata pally Tanda	42.	Sherbapur	
43.	Venkatampet	Laxmi tanda Gasiram tanda K.Tanda Amarguni Tanda Donia Tanda	44.	Nelvalapalli	
45.	Pasnur	Challoni kunta Naminayak Tanda Raja Tanda Jammiguda Pogillaguda	46.	Thirumalagiri	
47.	Katepally		48.	Amloor	

PHASE II - ZONE 4:

TOTAL NO. OF VILLAGES: 15
TOTAL NO. OF HAMLETS : 26

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Marriguda	Thanda	2.	Kondur	
3.	Yeregandla -palli	Narasimhapur Aulapur Asulapur Tanda	4.	Tirugandlapalli	
5.	Thammadapalli		6.	Godukondla	Mall (V.Nagar)
7.	Polepalli -Ram Nagar	Botinedi Tanda Thurupu Tanda Padamati Tanda	8.	Madanapur	
9.	Takkeapalli	Rotigadda Tanda	10.	Chakali Sherpalli	
11.	Umapur		12.	Kurmed	Gopya Tanda Bojya Tanda Gollapalli Ratya Tanda
13.	Kurmapalli	Sai Reddigudem Edullapalli Narasimkapur Rayaniguda Battugudem Vinjamur tanda	14.	Vinjamur	Kitarayan palli

		Devula thanda Peddavarigudda			
19.	P.K.Mallapalli				

PHASE II - ZONE 5:

TOTAL NO. OF VILLAGES : 29
TOTAL NO. OF HAMLETS : 35

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Mohdapur	C.Mohammadapur	2.	Nempalli	Untlegaddaguda Upparigudа
3.	Chittempad		4.	Vaddepalli	
5.	S.Lingotam	Lakshmapuram	6.	Wattipalli	Rajapet Tanda
7.	Damera		8.	D.Bhimanpalli	Kammaguda Chimal tanda Boya tanda
9.	Batlapalli		10.	Lankalapalli	Poliniguda Inulagudem
11.	Sarampet	Gaddonigudem Savamput Tanda Mummoriguda	12.	Indurthy	Sivannaguda Thandarpalli Ram Reddipalli Cherlaguda Narrireddiguda
13.	Medichan-dapur	Gajalapur Kothala	14.	Namapur	Arjun Thanda
15.	Anthampet	Anthampet Thanda Dharma thanda Rajya Thanda Batla Thanda Orodhan Thanda	16.	Somarajugudem	
17.	K.B.Palli	Saibaba Thanda Bandakindi Thanda Roni thanda Padmati thanda	18.	Yenkapally	
19.	K.Gouraram		20.	Hanumanthalapally	
21.	Mallareddypally		22.	Nasarlapalli	N.Palli Tanda
23.	Chintapalli		24.	GadiaGouraram	Hamjanapur Mrcu Goraram
25.	Varkala		26.	Hydalapur	
27.	TP.Gouraram	Narasimhulagudem Thugapadu	28.	Mallapur Raj pally	
29.	Thirumalapur				

PHASE II - ZONE 6:

TOTAL NO. OF VILLAGES : 16
TOTAL NO. OF HAMLETS : 50

Sl. No.	Revenue Village	Hamlets	Sl. No.	Revenue Village	Hamlets
1.	Peddapur	Peddathanda Raja kunta thanda	2.	Nerellapalli	

		Thurpu thanda
		Narsimhagudem
		Navullaguda
		Nimmatoni bhavi
		Bhojya thanda
		Bandlaguda
		Jinthanda
3.	K.Tirumulgiri	
4.	Somalapalli	
5.	Ganugupalli	Komatibaviguda
		Anjulabaviguda
6.	Gundrepalli	
7.	Pochampalli	Bantuguda
		Papponiguda
8.	Tummlapalli	Thurmareddyguda
9.	Doni pamula	
10.	Nermata	Jogiguda
11.	Vattikode	Bungonibai
12.	Ghattuppal	Dharmathanda
13.	Theretiplly	Kammaguda
		Seriguda
14.	Voilapally	Gollaguda
		Satya thanda
		Marribai tanda
		Pallegattu thanda
		Radhanagar thanda
		Amboth thanda
		Korra thanda
		Pothaluri thanda
		Saparata thanda
		Lohodi thanda
		Jagan thanda
15.	Chillapur	Lachammaguda
16.	Jangaon	Vachya thanda
		Daku thanda
		Gandamalla thanda
		Dubba thanda
		Botimedi thanda
		Yerra thanda
		Palligattu thanda
		Kaddila thanda
		Kadapagandithanda
		Bollamdevi thanda
		Aregudem
		Koppula thanda
		Porlukunta
		Raku Thanda
		Botimedi thanda
		Kothaguda
		Amboth thanda
		Torupu thanda