REPORT ON NATIONAL WORKSHOP TO SHARE EXPERIENCES OF PSWS AND SANITATION PLANNED AND IMPLEMENTED WITH COMMUNITY PARTICIPATION

(DECEMBER 2nd. - 6th. 1985)

ORGANISED BY

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
P. O. Box. 14
MOUNT LAVINIA
SRI LANKA

SUPPORTED BY

INTERNATIONAL REFERENCE CENTRE
THE NETHERLANDS

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1. BACKGROUND

The Government of Sri Lanka has pledged to meet the goals set by the United Nations for the Inaternational Water Supply and Sanitation Decade to supply all communities with drinking water and sanitation by 1990, of yet on a realistic appreciation, the National Decade Plan 1980 limited the broad objectives to the provision by 1990, of safe water supplies to 50 percent of rural population and 100 per cent of urban and Estate population. The remaining 50 per cent of rural population is planned to be covered during 1991 - 1995 considering it as an extended period of the programme. According to the plan, it was envisaged that approved sanitation facilities would be made available to 100 per cent urban population by 1990 and to 100 per-cent of rural population by 1995.

The plan has outlined the proposed national, regional and community level strategies with the aim of promotion of self-reliance through mobilisation of existing and new human resources, increasing public sector participation, community involvement and decentralisation of authority and responsibility.

Great emphasis has been laid in stressing the significant role of health education and community participation for the promotion of the construction of latrines in the rural sector on the basis of self-help and self-reliance.

Low cost appropriate sanitation technology which is within easy reach of the rural poor is one of the recognised key elements of self reliance which would not only lead to the construction of latrines on self help basis but also to sustain them effectively. In this connection considerable advance has been made elsewhere in South East Asian countries with different types and approaches. In Sri Lanka a sanitation model developed in 1958 by the Environmental Sanitation Project Kurunegala, has been widely used and for nearly two decades there had not been any substantial progress in the development of alternative designs for the low cost latrine construction programme in the rural sector.

This has been an increasingly felt need in the latrine construction programme and the present project supported by IRC made strenous efforts in testing out a low-cost, easily manufacturable syphon which could effectively be used for both offset pit and direct pit water seal type latrines.

A greater degree of fleibility was observed in the case of those who could afford to construct latrines using expensive quality syphons. The low cost appropriate technology was supported to the fullest extent possible for those who cannot be developed with such sophisticated technology within the area on a large scale. This was given high priority considering the aspects of maintenance and further expansion of the programme on the production of squatting plates and syphon, and the training of villagers within the area in the required skills in the construction of latrines.

Local manpower was built up in the art of turning out of a syphon and soon the manufacture of the syphon became a generalised skill including even women mastering the art of manufacture. Surprisingly, complete coverage of latrines in the project villagers became a reality in few months. Latrines are constructed by the villagers themeselves. The cost varies according to their economic capacities. What was all available for them was the subsidy of Rs,250/=of the Ministry of Health.

Standardization of technology particularly in making the syphon to match the quality syphons available in the market was another recognised feature and the project dedicated litself to bring out one which was widely adapted and some could be replaced with a ceremic quality syphon available in the open market.

It has been emphasized that water supply and basic sanitation facilities cannot fulfil their objectives unless they are effectively community - based. It is concerned that the planner community gap in knowledge and perceptions was one of the great impediments preventing the decision making process of the benefitting communities. It has also been recognized that exclusive reliance on the service agency, in the absence of community participation has, in many cases, led to the deterioration of water supply facilities after their construction, resulting heavy expenditure in operation and maintenance and nullifying the prime objectives thereby creating more hardships to both the service agency and the community.

Participatory planning was mentioned to be a viable element in stimulating the initiative and resourcefullness of the people. There was no such experience within the country although many projects were found in operation.

Bridging the gap between the facilitators, planners and the benefitting community in knowledge, perceptions, attitudes norms, beliefs and host of others is no easy task. It cannot just be obtained over the counter like a commodity. It has to be bridged and obtained through a difficult process involving all the key people having identified them scientifically and generalising the involvement of the total community in democratic ways with full understanding and commitment so that they would feel that facilities of sanitation and safe water will have to be ontained through hard work and on their own efforts. It is only then they would feel that water and sanitation is theirs. It is only then they will realise that they have to operate and maintain such facilities in order to gurrantee the continous services.

The most valued impact of the IRC supported programme is the process that it developed as result of varied experiences monitored and evaluated step by step. At the beginning there was no written down process available except the knowledge and experience of project consultant and staff, and support of the Project Management Committee with a flexible plan of work which led to evolve the process adjusting each step suitably with the experience and participation of key community people, as the project progressed.

2. OBJECTIVES OF WORKSHOP

The following are the workshop objectives.

1. To create learning situations and share the experiences of water supply and sanitation projects implemented by other agencies with that of the ones implemented by National Water Supply and Drainage Board.

2. To visit the IRC supported water supply and sanitation project of Haldummulla and Seelatenna and observe the methodology and problems that emauated during and implementation of the projects with community participation.

3. To review and strengthen the draft guidelines developed on the basis of experiences gained in planning and implementing the IRC supported water supply and sanitation programmes.

4. To review the experiences already gained and submit recommendations for further improvement of water supply and sanitation programmes.

3. WORKSHOP DESIGN

3.1. The workshop was designed so as to afford maximum opportunities to participants so that they would obtain a profile particularly on both social and associated technical dimensions of all the major water supply and sanitation projects that in progress in the country. It was observed and noted that different methodologies were found to have been adopted by many agencies in their strategies in planning and implementing their respective programmes of water supply systems and sanitation.

3.2. It was assumed that these major agencies would have gained a wealth of knowledge and experiences in their respective efforts and interventions, and that, it would be beneficial to share and exchange these views for the benefit of the participants who were directly involved or concerned in some measure or the other in the implementation of water supply and sanitation programmes in the country.

3.3. A considerable portion of workshop time was set apart to other local (expatriate) project implementing agencies including the NGO sectors for presentation of their projects. Along with these, the PSWS Project participating countries were also accomodated to present in brief their programmes so that their experiences would be heard, reviewed and ideas exchanged.

In all these presentations, it was requested to pay particular emphasis to areas such as, the methodologies, socio-cultural and technical constraints, revenue generation for operation and maintenance, problems and solutions, community participation etc. It was assumed that these were the generalised characteristics affecting all water supply and sanitation programmes.

3.4. The Water Supply and Sanitation Project supported by IRC is one where all planning efforts and health education outputs were pooled together to bridge the knowledge, practice and priority perception gap between the planner and the community through an intensive participatory planning process. Although it was a laborious and time consuming process it paid a rich dividend. The community made the decision in planning , implementing, monitoring and evaluating all aspects of the water supply except the unescapable and inevitable technical applications. The project proceeded from strength to strength correcting and adjusting itself wherever deemed necessary. This is a novel experience and it was thought that from the NWSDB's side these experiences should be shared with others.

3.5. Absence of a comprehensive guideline in planning and implementing of water supply and sanitation projects utilising community participation through participatory planning as the key approach in bridging the gap between the planner and the community was felt and a draft guideline prepared on the basis of the RSWS and Sanitation project experience was made available in advance for discussion by the participants for review with their comments. Nearly seventy five percent(75%) of group discussion time was set apart to bring this draft guidelines updated.

3.6. Presentation of Discussion Papers

The following major components were accomodated for the effective coverage of the workshop objectives:

3.6.1. Views and policies of the Ministry of Local Government Housing and Construction as regards community water supply and sanitation

3.6.2. Concepts, views and comments by Bilateral Agencies in community water supply and sanitation.

3.7.1. Three major areas namely Health Education Community Participation and Technical Aspects were entrusted to three groups.

3.7.2. A discussion session with the members of the Action Committee, villagerss and Government officials including the Assistant Government Agent Haldummulla in both project areas, Haldummulla and Seelatenna.

3.7.3. Field visit to rural homes to observe the latrines completed and standposts.

3.7.4. Village construction site where syphons have been turned out.

3.7.5. The rehabilitated standposts and families served by them.

3.8. Group Discussion and pleanaries

3.8.1. Group discussion sessions were organised to discuss the field visits and the draft guidelines.

3.9. WORKSHOP PREPARATION AND PLANNING

It was the consensus of the Project Management Committee (PSWS) that the Demonstration Project has reached an appreciable degree of maturity and that experiences gained should be shared with other project participating countries and local agencies dealing with rural water supply and sanitation schemes under the concept of Technical Co-operation among Developing Countries. The Project Manager IRC, The Netherlands, confirmed the participation of Zambia, Malawi and Indonesia It was decided to invite local NGOs and all other (foreign) donor agencies dealing with water and sanitation.

The local project staff organised the workshop with the necessary background papers and field preparations.

GROUP I

01. Mr J S Amarasekera
02. Mr Ranjith Balasuriya
03. Mr J Efraimson
04. Mr Ranjith Fonseka
05. Dr R M Fernando
06. Mr L P Gunatilleke
07. Mr W Gunapala W Ganegama
08. Mr A H Jayaweera
09. Mr M B M Samarasekera
10. Mr S Dissanayake
11. Mr S M D Premaratne
12. Mr S I M Kaleel

RESOURCE :

Dr S W M Perera

Mr Piyasena Ganewatte

Mr Percy Lao

GROUP II

01. Mr B A Ranaweera
02. Mr D P Adikari
03. Mr R W Chandrasiri
04. Mr P de Alwis
05. Mr R S C George
06. Mr A T J Madugalle
07. Mr H L W Nanayakkara
08. Mr D M Kabumu
09. Mr L Liyanage
10. Mr K A W Abeykone
11. Miss Auli Kainanen

RESOURCE :

Mr H I Karunadasa

Mr WW C Gilbert

GROUP III

01. Mr P Abhayagoonewardena
02. Mr N E M S B Ekanayake
03. Mr S K H Perera
04. Mr H Pinidiya
05. Mr A D Ariyadasa
06. Mr R A Sirimanne
07. Mr D C Vitanage
08. Dr T C M Joseph
09. Mr S de Seram
10. Mr Ranjith Jayasinghe
11. Mr S J P Wijegoonewardena

RESOURCE :

Mr Michael Saeger

Mr P M Pathiraja

Mr W A N Weerasinghe

5. WORKSHOP PROGRAMME

NATIONAL WORKSHOP TO SHARE EXPERIENCES OF I S W S AND SANITATION PROJECT PLANNED AND IMPLEMENTED WITH COMMUNITY PARTICIPATION

DECEMBER 2 - 6 1985.

December 2, Monday

8 . 00 - 8 . 30 A.M.	Registration	
8 . 30 - 10 . 00 A.M.	Inaugeral Session	
	Welcome address - Chairman	
	Address - IRC	
	- WHO	
	- UNICEF	
	- UNDP	
	Address - Chief Guest	
	Vote of thanks - Project Manager	
10 . 00 - 10 . 30 A.M.	Tea	
10 . 30 - 10 . 40 A.M.	Programme and Workshop methodology.	
10 . 40 - 12 . 15 A.M.	Presentation of Reports	
	- DANIDA	
	- Plan Centre	
	- IRDP	
	- Sarvodaya	
	- NGO	
	- Health Ministry	
12 . 15 - 1 . 30 P.M.	Lunch	

1 . 30 - 2 . 30 PM.	Presentation of Reports of PSWS Participating countries.
	- Indonesia
	- Malasia
	- Zamoia
2.. '30 - 3 . 00 PM.	- Slide presentation - on Sri Lanka's projects.
3 . 00 - 3 . 15 PM.	- Tea
3 . 15 - 3 . 45 PM.	- Video film on Haldummulla project
3 . 45 - 4 . 15 PM.	- Briefing for field visits Evaluation

December 3, Tuesday

7 . 00 AM.	Leaving for Haldummulla
12 . 30 - 1 .30 AM.	Lunch
1 . 30 - 2 . 30 AM.	Discussion with Action Committee members village leaders and Gramodaya members - Haldummulla
2 . 30 - 4 . 30 PM.	Field visit - Haldummulla, PSWS and Sanitation Project
	Group 1 - Egodawatte
	2 - Halatutenna
	3 - Haldummulla

December 4, Wednesday

8 . 15 - 9 . 15 AM.	Discussion with Action Committee members, Village leaders and Gramodaya members - Seelatenne Rehabilitation and Sanitation project.- Seelatenna
8 . 15 - 12 . 00 Noon	Field visit-Seelatenna Rehabilitation and Sanitation. All groups to visit - Huriyahela and observe construction of syphons by the villagers. All groups to observe the rehabilitation scheme, Seelatenna. Group I Huriyahela Group II Hawanikahawa Group III Watagamuwa
12. 00 -	Departure
12.00 - 1.30 PM.	Lunch
1.30 PM.	Leaving for Colombo

December 5, Thursday

8.30	-	10.30 AM.	Group discussion on field experiences.
			Group I Health Education aspects of the project.
			Group II Community participation aspects of the project
			Group III Technical aspects -Water Supply and Sanitation
10.30	-	10.45 AM.	Tea
10.45	-	12.30 PM.	Presentation of group reports
12.30	-	1.45 PM.	Lunch
1 .45	-	4.45 PM.	Review guidelines - Planning for community participation and health education in water supply and sanitation.

December 6, Friday

8.30	-	10.00 AM.	Presentation of reports
10.00	-	10.15 AM.	Tea
10.15	-	10.30 AM.	Evaluation
10.30	-	12.30 PM.	Preparation of group reports.

2.30 - - 4.15 PM. **Final Session**

- Presentation of group reports
- Presentation of draft of the Workshop report
- Views of participants
- Concluding remarks
- Vote of thanks

7.30 PM. Dinner

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6. GUIDELINES ON WORKSHOP METHODOLOGY:

6.1 PRESENTATION OF REPORTS OF DIFFERENT AGENCIES :

On the first day, participants will be exposed to a session where they will get an opportunity to listen to reports of different Agencies dealing with water supply and sanitation. These Agencies including the Health Ministry were requested to highlight the objectives, methodology and problems in their presentation. The objective is to get a variety of experiences in planning, implementation, operation and maintenance, financial and technical aspects, and the processes adopted by these Agencies.

Foreign participants are given an opportunity to present their reports describing their methodology and problems that they have experienced in their programmes.

6.2. THE VIDEO FILM AND SLIDE PRESENTATION :

The slide presentation of the National Water Supply and Drainage Board will highlight the salient points of the Haldummulla Water Supply and Sanitation Programme and the retrospective behaviour of the failed Seelatenna Public Standpost Water Supply. The slide presentation will be further supported with a video film. The objective of this session is to prepare the background for field visit.

6.3. FIELD VISIT AND GROUP WORK :

For the purpose of the field visit the participants will be divided into three groups. Each of these groups will be provided with resource persons who have previously visited the project area and studied it.

6.4. GUIDELINES TO FIELD VISIT :

Each participant is supplied with a set of guidelines to facilitate observation and discussion during the field visit and the meeting with the Members of the community. Participants are kindly requested to deviate from the guidelines if they feel necessary to obtain any other information pertaining to the project.

Although each group is expected to pay more emphasis to a specific subject area field situations will be on a general pattern. The meeting with the community will be a general one. It is assumed that groups can extract more information relevant to their topics during visits to families and meeting the memebrs of the Action Committee and others individually. It is desirable that each group is divided into small groups (minimum 4 or 5)

6.5. SEELATENNA - WATAGAMUWA REHABILITATION PROJECT : 4 DECEMBER 1985 - 08.30 AM TO 12.15 PM

This project will be visited on 4th December 1985 at 08.30 am.

A meeting is arranged with the Action Committee members and others to discuss as to how the community has developed the project. This meeting will be a general discussion session.

Thereafter participants will be taken to the place where syphons are turned out. A demonstration will be held describing each step of the construction of the syphon.

Visit to the families and to the rehabilitated standposts will then be taken up. Each sub-group is expected to visit a minimum of 4 to 5 families.

6.6. GROUP DISCUSSION ON FIELD EXPERIENCES :
THURSDAY - 08.30 AM TO 09.30 AM :

The group is given the freedom to have its own presentation however, the group is requested to pay attention to the methodology, problems in planning and implementation and the impact.

6.7. SESSION ON PROBLEM ANALYSIS :
THURSDAY - 09.30 AM TO 10.45 AM :

From the list of problems identify a problem. Discuss the nature and the contributing factors for the causation of the problem. Identify the relational variables (factors) and discuss them taking constraining and favourable factors separately -

6.8. USE FORM 1 :

6.8.1. List all constraining factors.

6.8.2. List all favourable factors.

6.8.3. Indicate constraining factors against which something can be done.

6.8.4. Indicate constraining factors against which nothing can be done.

6.8.5. Rank the constraining factors in order of its importance.

6.9. **USE FORM 2 :**

6.9.1. **Indicate what can be done for each constraining factor.**

6.9.2. **Indicate who can take the initiative. In indicating who can take the initiative take participatory planning process into consideration.**

6.9.3. **Indicate whether participatory planning process could be applied in the solution of the constraining factor. If not suggest measures.**

6.9.4. **If the participatory planning process could be applied indicate how would that be applied.**

6.9.5. **Indicate who are to be involved and when.**

6.10. PRESENTATION OF GROUP REPORTS :
THURSDAY - 10.45 AM TO 12.30 PM. :

Rapporteurs are kindly requested to take down the comments of their respective group presentations.

6.11. GROUP SESSION ON REVIEW GUIDELINES :
THURSDAY - 01.45 PM TO 04.45 PM. :

Each group will get a portion of guidelines written on the experiences of the project. The group is expected to review the guidelines taking into consideration the relevance, sequence and objectivity. If necessary, group may add or delete giving reasons in doing so.

6.12. PRESENTATION OF REPORTS ON REVIEW GUIDELINES :
FRIDAY - 08.30 AM TO 10.00 AM :

The group rapporteur is expected to present the report and make the necessary modifications after the discussions.

6.13. PREPARATION OF GROUP REPORTS :
FRIDAY - 10.30 AM TO 11.30 AM :

Groups are expected to compile the report wtih recommendations

6.14. PRESENTATION OF GROUP REPORTS :

Each Group will present the group reports with recommendations. After the discussion the rapporteurs are kindly requested to make the necessary modifications and prepare the final report.

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PROBLEM ANALYSIS — FORM 1

6.15

		Problem Statement			Group No.
					Session No.
Rank	Constraining Factors	Can Something be done		Favourable Factors	Rank
		Yes	No		

PROBLEM ANALYSIS - FORM 2

6.16.

		Problem :		Group No.
		Constraining Factor		Session No.
What can be done ?	Who can take the initiative	Do you feel that the Participatory Process can be applied ?	If so, how can that be done	Who are to be involved and whom ?

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7. FIELD VISIT - HALDUMMULLA AND SEELATENNA - 3RD & 4TH DECEMBER 1985

The objective of this field visit is to provide opportunities to participants and others :

7.1. To get an acquaintance of the PSWS system of Haldummulla, the rehabilitated PSWS system of Seelatenna and Related Sanitation Programmes Planned and Implemented with Community participation.

7.2. To study the Participatory Planning Process and how it has worked to achieve community participation in the implementation of the Project Programme.

7.3. To observe and study the construction of the low cost sanitation model and different aspects of the latrine construction programme where self-help and self-reliance were given importance.

7.4. To observe and study the community integrated efforts to support community participation in achieving the needs (Water & Sanitation) of the community.

7.5. To observe and study the community health education programme and how it has worked to achieve community participation and behavioural changes.

7.6. To identify the problems that have come up during planning and implementation of the project programme.

Participants are given an opportunity to discuss with the key people and other field officers who were involved for Project Planning and Implementation from the beginning of the Project. They will be taken to the village to demonstrate what the villagers have done for themselves.

Some of the important topics for discussion are given below :

7.7. PROCESS :

- **How did they come to know of the project ?**
- **Why did they consider the project is important to them ?**
- **How did they become the partners of the participatory planning process ?**
- **How have they been motivated to get themselves involved in planning the water supply programme.**
- **Did they get an opportunity to present their views ?**
- Do they think that the plan was developed in consultation with them ?
- Do they feel their views were ignored (Not individual) at at the conclusion session of the community consultation programme ?
- Do they feel that the community share was too much for the community ?

7.8. LATRINE CONSTRUCTION :

- Why do they think that latrine construction is important to them ?
- Do you think that the syphon is suitable for the construction of latrines ?
- Do you feel that you can get the villagers to construct syphon to meet their requirements ?

7.9. LATRINE CONSTRUCTION PROGRAMME :

What the project did was to provide support to the latrine construction programme of the Ministry of Health. The WHO Sanitary Engineer was very closely associated in providing technical guidance particularly in evolving the syphon. The National Water Supply and Drainage Board provided cement and reinforcement and recovered the cost from the subsidy payment. The present progress is the result of the efforts of the Health Ministry and National Water Supply and Drainage Board.

It should be noted that the project did not aim to have a latrine construction programme of its own and its inputs were to provide health education and technical expertise to promote the latrine construction programme within easy manufacturing potentials of the community by producing low cost sanitation models and getting the community to accept it. Our major objective was to promote the latrine construction programme of the Ministry of Health on the basis of self-help and self-reliance.

Very high priority was given to arrest the open defecation behaviour and get the community to accept the latrine as the place for defecation.

Latrine construction programme in the Rehabilitation Project started in June 1985 and the present position is as follows :

7.10. PLANNING THE WATER SUPPLY SYSTEM :

(EXCLUDING THE TECHNICAL PLAN AND TECHNICAL ASPECTS)

1. How was the water supply system planned ?
2. Has there been a conceptual gap between people and the planners ?

3. **What measures have been applied to bring both communities and the project staff to create a common platform for discussion ?**

4. **How was the water supply system viewed by the community ?**

5. **What was the contribution of the community in construction of the water supply system ?**

6. **Did the community agree to undertake some share of the proposed plan ?**

7. **Who decided the location of standposts ?**
(New Supply and Rehabilitation)

8. What were the main criteria for the selection of the standposts ?

9. Has there been any problems in the selection of the location of standposts ?

10. Who has taken the responsibility of decision making ?
(Rehabilitation Project)

Is it the Project staff ?
Is it the community ?
Is it both parties ?

11. What was the role of the project staff (Rehabilitation (Project) in the decision making process :

12. Has the plan been facilitated by decision making by the community ?

13. How has this rehabilitated plan been carried out by the community?

14. (As regards the Haldummulla Water Supply System) did the community agree to pay for the operation and maintenance ?

15. What were their priorities before undertaking the programme

16. If water and sanitation were not given high priorities why have they sacrificed them ?

- Why do you think that sanitation is important ?
- What was the contribution of the NWS&D Board ?

7.11. HEALTH EDUCATION :

1 – What was the methodology adopted to disseminate health
2 – information to the villagers ?

3 – What was the contribution of the health staff ?

4 – How did volunteers function in this programme ?

5 – What was the contribution of health system in the area ?

6 – What were the major training programmes conducted in the project ?

7 – Were there any community consultations ?

8 – What were the objectives of the community consultation programmes?

9 – How have they come to know about the undesirable bahaviour related to water supply and sanitation ?

10 – Were they sufficiently motivated to modify these undesirable behaviours ?

11 – How have they involved the school system of the area ?

12 – Were they sufficiently motivated to undertake the educational functions of the community ?

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7.2. Seelatenna - Watagammuwa - Rehabilitation of Water Supply and Sanitation Project- 1985

Village	No of houses	Population	Number without latrines	Latrines Newly Constructed	No to be constructed	Remarks
Harenkahawa	51	370	18	18	NIL	
Seelatenna	40	137	12	8	4	
Watagammuwa	36	230	1[illegible]	under construction		To be taken up in November 1985.
Wariyahela	32	158	17	17	NIL	
Rukkattena	16	82	14	14	NIL	
	175	977	71	57	4	
Commencement of latrine construction and Rehabilitation	June 85.					

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8. **PROBLEMS :**

8. 1. EXTERNAL DEPENDANCE :

A high degree of external dependance was seen in project area. This was noted during Gramodaya Meetings, in proceedings of voluntary organisations and during the two day community consultation and discussion programme.

8. 2. INTERNAL DEPENDANCE :

The poor under privileged group of the community feel that they did not get any benefits from the previous projects and they doubt that the same thing would continue.

8. 3. LOCATION OF STANDPOSTS :

The location of standposts would be decided in favour of the privileged group and those deserving would not be taken into consideration.

8. 4. LACK OF COHESIVENESS :

Socio-economic status, priorities, have divided the community into different groups lacking in community cohesiveness.

8. 5. POLITICAL INEQUALITY :

Although it is not prominently seen there are political factions believing different political ideas. There was experience where damage has been done to water supply and other projects due to political differences. This is mostly covert behaviour.

8.6. ECONOMIC INEQUALITY AND BENEFITS :

There was fear that only the privileged people are getting the water supply by way of private connections and other do not benefit out of this project.

8.7. LACK OF KNOWLEDGE OF THEIR OWN POTENTIALS :

Very often villagers do not know their own potentials, and as a result their own resources are not better utilised.

8.8. COMMUNITY INEQUALITY IN REPRESENTATION :

It was found in some cases that the Gramodaya is not properly represented and further investigations revealed that the attendance of the members was very poor.

8.9. FEELING OF AN ECONOMIC BURDEN :

Although the community agreed to pay a monthly rate in order to ensure the operation and maintenance of the water supply by the Gramodaya fear has been expressed by them about the possibility of collection of such funds and the continuation of the system of payment.

8.10. LACK OF SKILLS IN MANAGEMENT :

It is feared that the Gramodaya does not have the managerial skills to recover money and operate and maintain the water supply system.

8.11. EMPLOYMENT OPPORTUNITIES :

The political system interferes in the recruitment process. The water supply system is planned to be done with peoples participation. Certain amount of job opportunities are inevitable. Problems arise in the recruitment and have affected community participation.

8.12. SOCIAL CONFLICTS :

Although villagers agreed on the location of the standposts they differed due to subsequent social conflicts that arose within them.

8.13. AN ELEMENT OF SOCIAL INEQUALITY IN SHARING BENEFITS :

Health Education is done to keep the standpost free from bathing, washing etc. The standpost users agreed to pay for the operation and maintenance of the scheme. Those who get private connections have the benefits of using water for bathing and washing whereas the standpost users are prevented from using the standpost for washing, bathing etc. This has made some concern in the community.

8.14. PAYMENT OF SUBSIDY :

There is a long delay in the payment of subsidy. This has discouraged everyone (both staff and community) and acted as a block to the programme of latrine construction.

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9. THE IRC SUPPORTED PSWS PROJECT - SRI LANKA

9.1. OBJECTIVES :

9.1.1. To develop appropriate strategies, methods and techniques for the planning implementation and management of Public Standpost Water Supply System and Sanitation in the rural sector of Sri Lanka.

9.1.2 To evolve processes which are socially and technically feasible to rehabilitate Public Standpost Water Supply Systems that have failed, in rural sectors of Sri Lanka.

9.1.3 To develop low cost sanitation models technically and socially feasible, and within easy manufacturing potentials of rural communities on the basis of self-help and self-reliance and promote sanitation programme of the rural sector of Sri Lanka.

9.2. ADDITIONAL OBJECTIVES :

9.2.1 To generate knowledge on various organisational and socio-cultural aspects of Public Standpost Water Supply Systems and Sanitation.

9.2.2 To promote the international collaboration, transfer of knowledge and exchange of information on various aspects of Public Standpost Water Supply Porogrammes in line with TCDC concept.

9.2.3 To promote the planning and implementation of large scale public standpost water supply schemes, as a follow-up of the present programme.

9.2.4 **To allocate funds for the implementation of these schemes and for other follow-up activities**

In the long run the programme aims at improving the organisational and technological infra-structure and the strengthening of the operation and managerial capacity in the community water supply and sanitation sector at national and local level.

9.3. PROJECT MANAGEMENT :

National Water Supply and Drainage Board of the Ministry of Local Government, Housing and Construction is assisted by a Project Management Committee consisting of representatives of the Ministry of Health, WHO, UNDP, and the University of Sri Jayawardenapura.

9.4. MAJOR AREA OF ACTIVITIES :

9.4.1 PUBLIC STANDPOST WATER SUPPLY SYSTEM :

It was agreed to construct a minimum of four Public standpost water supply systems under the Project. These demonstration projects were to be selected from rural areas with a low socio-economic background.

9.4.2 RURAL SANITATION BY WAY OF LATRINE CONSTRUCTION :

The sanitation component was later added having considered its significance and relation to water supply in arresting the water and sanitation related morbidity. In this context, it was considered viable to support the latrine construction programme of the Ministry of Health by experimentally testing out feasible, low cost sanitation models for the promotion of rural latrine construction programme on the basis of self-reliance and self-help.

The design adopted in the project is as follows.

9.4.3. HEALTH EDUCATION AND COMMUNITY PARTICIPATION:

Health Education and community participation are considered dynamic elements in the achievement of objectives of the project. Since there has not been any previous experience where public standpost water supply systems were constructed with community participation it is felt that a strategy has to be envolved to implement such programmes in the future. Health education interventions were required to be innovative and supportive in promoting the community participation strategy in the short run and in bringing about desirable changes of the community in the long run.

Health Education Plan is annexed.

9.5. THE PRESENT POSITION OF THE PROJECT :

The following table shows the present position of the four projects upto the end of October, 1985,The construction of Haldummulla PSWS is completed and water is commissioned for use. Operationa and Maintenance aspects are now being studied along with health education for proper use of standposts. Rehanilitation of Seelatenna PSWS Project (technical) is completed and the rehabilitation of undesirable behaviour connected with the use of standposts is being done. Construction of Padaviya PSWS Scheme is affected due to terrorists attacks in the neighbouring villagers. It is encouraging to note that with the commencement of the community share of the construction plan on 19th October, 1985, 4 Km. of pipe length have already been laid by the people.

Health Education work in respect of all projects are being continued .

9.6. THE METHOLOLOGY

The methodology adopted in the project is one that has resulted in a long process of discussion based on experiences in consulting and working with communities and Project Management Committee meetings .

Strenous efforts have been made in reviewing what has already been done as planned with the people and to what effect. Taking remedial measures for what has already gone wrong and what should be planned next was discussed in detail both with the community and with the members of the Project Management Committee and implemented as agreed with the community. Although community has been involved from the very early inception of the project for planning it should be remembered that there should be a clear and detailed flexible plan for the implementation of the project. Even this plan has got to be discussed with the community and suitably modified taking into consideration their views.

There is no one specific model of community participation appropriate to all situations.Even guidelines practically tested with communities require modifications as the project develops for no one knows the nature and depth of problems that are likely to arise particularly in respect of behavioural dimensions. The conceptual gap cannot be bridged unless planners themeselves bridge their own gap of differences and identify differences within the community structure which are more complex and require intensive investigations.

What was lacking in the context of Sri Lanka is genuinly tested out procedures in this direction so that processes are known for replication with necessary modifications.

The experiences and procedures adopted in planning and implementing the project with the relevent communities were utilised in evolving a process for community education and participation. This was the basis for the preparation of guidelines for planning community standpost water supply and sanitation. The process with steps are as follows.

9.7. PARTICULARS OF THE PRESENT STATUS OF THE PROJECT

No.	Name of Demonstration Site	Province	District	Distance from Colombo	No.of Families	Population	Nature of Project	Present m position	Remarks
1.	Haldumulla	Uva	Badulla	180 Km.	332	2030	Public Standpost Water Supply and Latrine Construction	Water Supply Programme completed - 95% coverage of latrine construction	Commissioned for use in July, 1985
2.	Padaviya	North Central	Anuradhapura	290 Km.	390	2160	(Expected to be completed by December 1985)	60% coverage of latrine construction 90% coverage of pipe laying completion of community share	Work affected due to terrorist activities
3.	Wijebahukande	Central	Nuwara-Eliya	192 Km.	410	2700	Public Standpost water supply and sanitation	Work is in progress. Started work in October 1985	Work affected due to non-availability of technical staff
4.	Seelatenna	Uva	Badulla	185 Km.	175	977	Rehabilitation of PSWS and Sanitation	Completed	Commissioned for use

9.8.

STAGE I - PREREQUISITES TO COMMUNITY PARTICIPATION AND PARTICIPATORY PLANNING.

STEP : 1. Review project documents and relevant literature (water supply and rural sanitation)

2. Make exploratory visits and acquaint yourself with the area, with the people and particularly with social institutions.

3. Study sanitation and water related behaviour to some depth

4. Study the morbidity and mortality of water and sanitation related diseases in the area.

5. Study the efficiency of the Gramodaya and the voluntary organisations and promote if found inefficient.

6. Study the breath and depth of the socio-economic structure of the community and identify the dynamic elements and determine sociocultural and technical feasibility.

STAGE 2 - DEVELOPING OBJECTIVES OF HEALTH EDUCATION COMMUNITY PARTICIPATION

STEP 7. Review objectives of community participation and Health Education in terms of the socio-economic and anthropological findings of the community and technical feasibility of the proposed project.

STAGE 3 - COMMUNITY ORIENTATION AND PREPARATION FOR COMMUNITY PARTICIPATION

STEP 8. Plan and conduct orientation to normal and informal groups including Gramodaya. Conduct group education activities in all voluntary organisations in the area.

STAGE 4 - COMMUNITY CONSULTATION, EDUCATION (AT VILLAGE LEADERSHIP LEVEL) AND PLANNING

STEP : 9 Plan for a consultation education and planning session with them. Plan with them the programme of health education and sanitation. Reinforce community participation and establish an action committee to be responsible for the plan

STEP :10 Identify the problems that emanate during the process and apply remedial measures. Develop the technical design with them and modify it taking into consideration their views and present the developed design for their acceptance at the community consultation programme

STAGE 5 - PLANNING THE WATER SUPPLY AND SANITATION PROGRAMME WITH THE ACTION COMMITTEE AND COMMUNITY

STEP: 11 Match the community share of the construction plan with that of the technical design of the water supply and prepare a consolidated plan allocating functions to agreed groups

STEP: 12 Discuss and develop their share of work plan with the Action Committee. This may include Water Supply and Sanitation. Discuss the share of work with their individual voluntary organisations and if possible with the community and get their approval

STEP: 13 To support the programme, promote health education to special groups like schools, formal groups, voluntary groups etc.

STAGE 6 - REINFORCEMENT OF THE SOCIAL AND EDUCATIONAL BASIS OF THE COMMUNITY

STEP: 14 Get the Action Committee to group houses into blocks(8-15) and get the families of each block to select volunteers for training. The volunteer need not necessarily be a young person. The option should be given to the families for the selection

STEP: 15 Get the Action Committee to finalise the location of standposts in consultation with families to be served with it. Action Committee is to facilitate and the families to select the common location agreeable to them and appoint caretakers

STEP: 16 Assure that the technical expertise and support equipment (cement, reinforcements, mould and other materials for pipe laying etc.) are available before implementing the programme

STEP : 17 Get the health staff and the volunteers' to locate the sites for latrine pits and see that these pits are dug to the size given. Continue health education.

STAGE 7 IMPLEMENTING THE CONSTRUCTION WITH COMMUNITY CONTRIBUTIONS

STEP : 18 Implement the community share concurrently with that of the construction work plan for water supply. Discuss in detail with the technical personnel and arrange dates for the physical contributions of the communities (eg. Excavation of pipe lines, collection of locally available materials) and continue until agreed community coverage is achieved.

STEP : 19 Get the Action Committee to organise local masons and others to turn out squatting plates and syphons

STEP 8 PROBLEM IDENTIFICATION AND PLANNING FOR SOLUTIONS

STEP : 20 Assess problems and discuss with the action committee as regards the implementation of the community share

STAGE 9 PLANNING FOR OPERATION AND MAINTENANCE

STEP : 21 Plan for the behavioural involvement of the operation and maintenance of water supply with the people.

STAGE 10 - MONITORING PROGRESS

STEEP : 22 Meet regularly with the Action Committee and Gramodaya and discuss day to day activities, assess them and take corrective action.

STEP : 23 Evaluate the programme using indicators of both water supply and sanitation

STAGE 11 - EVALUATION

Field Visit Haldummulla - Basic Information

11. HALDUMMULLA :

1. LOCATION :

The area selected for the water supply and sanitation project consists of a part of Haldummulla Grama Sevaka area. It extends from 180 th Kilometer post to 182 Kilometer post along Balangoda-Haputale Road. The houses are located on either sides of the road. It is a hilly area with an altitude of 3000 ft. from mean sea level.

2. ADMINISTRATION :

Government Agent	- Badulla
A.G.A. Division	- Haldummulla
Grama Sewaka	- Haldummulla

3. HEALTH ADMINISTRATION :

Superintendent of Health Services	- Badulla
Medical Officer of Health	- Bandarawela
Public Health Inspector	- Haldummulla
Family Health Worker	- Haldumulla

4. ADMINISTRATION OF N W S & D B :

Regional Manager, National Water Supply and Drainage Board, Bandarawela

5. POPULATION :

The population of the selected area is about 2030 with about 332 households. Nearly 90 per cent of the houses are located close to Balangoda-Haputale main Road.

6. ETHNICITY :

83 per cent - Sinhalese
08 per cent - Muslims
09 per cent - Tamils

7. RELIGION :

80 per cent - Buddhists
09 per cent - Muslims
10 per cent - Hindus
01 per cent - Christians

8. HOUSING :

Nearly 81 per cent of houses are permanent type of construction with satisfactory light and ventilation while 19 per cent are semi-permanent type with poor ligh and ventilation. About 77 per cent of houses are individually owned and about 19 per cent are rented out. Nearly 3 per cent of houses are Government owned.

9. EDUCATION :

03 per cent - illiterate
32 per cent - have received education upto primary level (Grade 5)
63 per cent - have received a secondary education
02 per cent - have received a University education

10. ECONOMIC STATUS :

16 per cent had a monthly income upto Rs. 450/-
31 per cent of the families were in the income group of Rs. 450/- to Rs. 900/-
05 per cent of the families were in the income group of Rs. 900/- to Rs. 1050/-
48 per cent had a monthly income of over Rs. 1050/-

The economic status is depending on paddy, small tea holdings, sugar cane, and other commercial activities. This village was once a very prosperous once when the price level of sugar cane remained very high for a long period.
The existing improved housing standard was attributed to the high incomes enjoyed by the villagers when sugar cane had a good market, ten years ago.

The following is the distribution of the employment status of the population -

16 percent had their employment in Government and Corporations
19 per cent were cultivators
14 per cent were labourers
19 per cent were in business
23 per cent were unemployed

The present high level of unemployment (23%) was attributed to the non-availability of employment opportunities to labourers in sugar cane cultivation which is now being done on a small scale.

11. WATER CHARACTERISTICS AND BEHAVIOUR :

11.1 The following are the sources of water available to the community :

33 per cent had their water from springs

49 per cent had their water from pipes which are connected to springs. Most of these are individually owned while 26 families received their water provided through a pipeborne scheme by the Village Council, Haldumulla. The V.C. Supply was also an unprotected source.

17 per cent had their water from unprotected wells.

11.2 Transport of Water :

Nearly 51 per cent of housewives transported water into the house while nearly 36 per cent of their daughters assisted them in the transport of water. About 12 per cent of male members were also reported in bringing much needed water.

11.3 Frequency of Transport of Water for a day :

On an average of 8 trips were found to happening daily. Nearly 6 per cent of families had their own Water Supply available in their own premises. Owners of these houses have trapped the nearest spring and obtained water through PVC pipes. Nearly 27 per cent families have visited the sources of water less than 6 times a day while 73 per cent have visited more than 6 times a day.

11.4 Time spent for a trip, and for a day :

On an average 13.4 minutes were spent for each trip. Considering the average number of trips to be in each house on an average spent 107 minutes in transporting water into the house.

11.5 Distance to the Water Source :

Nearly 17 per cent of families had their water available within the premises. About 62 per cent had to walk a distance of 200 yards to get water while 17 per cent had to cover a distance up to a quarter of a mile for water. Nearly 4 per cent families had to walk up to a 3/4 of a mile to reach the water source. On an average these families had to walk a distance of 307 yards (both ways) spending 13 minutes.

11.6 Source of water and time spent for bathing. and washing linen and kitchen utensils :

Nearly 76 per cent families used to visit the spring or the pipe connected to the spring for bathing. It was a common feature to see that every spring was connected with either bamboo half, arecanut half or with a PVC pipe. Nearly 15 per cent families who had private connections of their own and PVC pipe line, depended their bathing on such survaces.

Nearly 73 per cent of families utilised springs for washing linen while there were about 18 per cent families who had water in their own premises for washing linen. About 9 per cent families have visited shallow pools of water for washing linen.

As for washing kitchen utensils etc. nearly 86 per cent mentioned that they utilised the water available at house for washing kitchen utensils. The balance 14 per cent were found utilising the closest spring.

On an average 53 minutes were spent for bathing

On an average 39 minutes were spent for washing linen

On an average 42 minutes were spent for washing kitchen utensils

On an average of 13.4 minutes were spent for each trip for transport of water with an average of 8 trips a day. A total of 107 minutes were spent for transport of water each day.

On the whole a family in Haldumulla on an average spent 241 minutes ie. 4 hours and 1 minutes to attend to water needs for a day.

11.7 Preference for Drinking :

As regards the preference for the existing sources for drinking 50 per cent believed their present sources of water safe for drinking. Nearly 19 per cent wanted it because the source was very much closer to the house while nearly 13 per cent preferred it as water was freely available. Nearly 6 per cent mentioned that they preferred the present source as it was used for drinking purposes for a long period. None preferred either for taste or smell.

The sources mentioned in this study are all unprotected water sources with possibilities of pollution although respondents. (50 per cent) believed those to be safe.

11.8 Preference for bathing, washing, clothes and kitchen utensils :

As mentioned kitchen utensils were washed mostly (85%) at home utilising water brought to the house. They preferred the (72 per cent) closest water source for washing kitchen utensils whatever is the quality of water. As regards washing and bathing nearly 76 per cent preferred the closest source of water. Colour, taste and smell were not the criteria for selection of the water supply for bathing and washing.

11.9 Feelings about their efforts and time on water :

Except for nearly 27 per cent who have expressed that the time and effort spent in obtaining water was their normal life the rest felt that they cannot afford to do it daily (35.4 per cent) and too much for a day (30.6 per cent)

12. KNOWLEDGE ABOUT SAFE WATER :

Nearly 68 per cent mentioned that the water they drink is safe for them and for their families, however nearly 32 per cent admitted that the water they drink is not safe for them, and for their families. The reason attributed for safety were as follows :

No disease occured by 5%
Because it is from a protected source by 29 %
No pollution found by 50%
Because others also drink by 10%
No other problem 2%

Nearly 4 per cent respondents who said that the water they drink is safe were unable to say as to why it was safe for them.

Those respondents who mentioned 'not safe' when requested as to why it was not safe for them, expressed (80%) that they did not have any other alternative other than the sources close by. Nearly 20 per cent of them were unable to say why it was 'not safe'.

12.1 Knowledge of Contamination :

As regards contamination nearly 97 per cent admitted that the water can be contaminated while nearly 3 per cent disagreed.

Those who agreed submitted the following as possible sources of contamination

- Faecal matters by 39 respondents
- Animal wastes by 32 respondents
- Other wasts vegetable matter by 36 respondents
- Human handling by 32 respondents
- Ground washings by 22 respondents
- I do not know by 02 respondents

(Multiple Answers)

12.4 Knowledge of Disposal of Excreta and Related Diseases :

Nearly 90 per cent felt that latrine is an essential need for their houses while 10 per cent of respondents have not felt that it is an essential need for them.

As regards the indiscriminate disposal of faeces causing sanitation related diseases nearly 95 per cent of respondents knew about it while nearly 3 per cent did not believe it as the causation of sanitation related diseases. Nearly 2 per cent have abstained in giving any comments.

Of those who agreed with the positive relationship nearly 28 per cent said that they were unable to describe the relationship while nearly 72 per cent of them mentioned that diseases are caused due to germs in faecal matter.

The diseases that could be transmitted due to indiscriminate disposal of faeces and mentioned them as follows :

Diarrhoea by	-	38 respondents
Typhoid by	-	10 respondents
Hepatitis	-	11 respondents
Hookwork by	-	25 respondents
Round work by	-	20 respondents
Cholera by	-	39 respondents
Polio by	-	10 respondents

(Multiple answers)

12.5 Knowledge of Prevention :

As regards prevention of these diseases nearly 96 per cent said that these diseases can be prevented while about 4 per cent mentioned that no prevention is possible

12.2 Sanitation - Disposal of Excreta :

Excreta disposal is as follows :

68 per cent used latrines
13 per cent used public latrines
02 per cent used others' latrines
17 per cent were used to open defecation habit

The position of the availability of latrines is as follows :

63 per cent had latrines
37 per cent did not have latrines. Of the latrines available
64 per cent are water sealed
36 per cent pit type latrines

12.3 Disposal of Excreta - Pre -school children :

There are 168 pre-school children in the study area of Haldummulla. Nearly 92 per cent of them did not have pre-school latrine accomodation while 08 per cent had pre-school latrines.

The disposal of excreta of those who did not have pre-school latrines was done in the following manner -

4 per cent of pre-schoolers by resorting to open defection habit

36 per cent of pre-schoolers faeces were collected by the mother and thrown

08 per cent collected and buried

52 per cent of pre-schoolers faeces were collected and disposed to a latrine

The reasons as to why they have failed to put up latrines were reported as -

84 per cent saying that they do not have means to put up lattines
07 per cent saying that they are in rented out houses and
09 per cent abstaining in giving any reasons for failure.

The preventive measures mentioned by them were as follows :

39 respondents by using a latrine
34 respondents by drinking boiled cooled water
18 respondents by improving personal hygiene
10 respondents by protecting food
09 respondents by avoiding bad food

(Multiple Answers)

Knowledge of the prevention of worm disease is as follows :

84 per cent said worm diseases can be prevented
09 per cent did not believe tha worm diseases could be prevented
07 per cent did not know whether the diseases could be prevented or not

Those who mentioned that the worm diseases could be prevented have mentioned the following measures as preventive :

49 per cent by using a latrine
06 per cent by using a pair of slippers
30 per cent by taking treatment
15 per cent by avoiding raw fruits

When requested whether they would be in a position to construct a latrine if (Rs. 250/-) subsidy is given to them :

72 per cent said they can construct latrines
14 per cent were unable to construct latrines even with subsidy
15 per cent abstained in giving any comments

13. AFFILIATION TO VOLUNTARY ORGANISATION :

Nearly 35 per cent of respondents are members of some type of voluntary organisation functioning in the area while 65 per cent of respondents had no membership in any voluntary organisation in the study area.

- National Youth Council
- Muslim League
- Hindu Society
- Co-operative Dept.Consiliation Society
- Halatutenna Rural Development Society
- Halututenna Avammangalyadara Society
- Walhaputenna Community Organisation

Of those who were members of voluntary organisations held the following positions :

33 respondents are members
02 respondents are secretaries
01 respondent is a chairman
02 respondents are treasurers
05 respondents are committee members

Their recent contributions to the voluntary organisations in the area are as follows. It was noted that those who are not members of any organisation have also contributed their share.

46 respondents donated money
20 respondents donated labour
05 respondents donated food
17 respondents donated materials

The organisations functioning in the area are :

Rural Development Society - Haldummulla
Sarvodaya

* * * * * * *

11. ADDRESS BY THE ACTING CHAIRMAN

MR.A.B.BOYAGANE

Distinguished guests deliegates from Malawi, Zambia and Indonesia, Ladies and Gentlemen,

It is with great pleasure that I welcome our chief guest Mr. Dustan Jayawardene, Additional Secretary, Ministry of Local Government Housing and Construction, who has kindly accepted out invitation of chair this inaugural session in spite of his multifarious duties in the Ministry. I welcome Mr.Micheal Seager Project Manager, for community Water Supply and Sanitation International Reference Center,Netherlands , who has encouraged us to have this workshop and helping us in every possible way. I warmly welcome the foriegn delegates from PSWS participating countries of Indonisia, Malawi and Zambia. It is with deep sense of appreciation I welcome the representatives of donor agencies, particularly the WHO, UNDP, UNICEF who have been very helpful to the Government of Sri Lanka in the improvement of water supply & sanitation. I welcome all other representatives of other agencies the USAID, IRDP, LAMIDA, Plan Centre and also our NGOs for giving us the necessary support in all our activities connected with water supply and sanitation. I am pleased to welcome the representatives of the Ministry of Health with whom we have very much to do in water supply and sanitation in the near future. Finally I welcome all the participants and others who have kindly responded to our invitation.

I will be failing in my duty if I do not mention a few words about the project that we have undertaken. In the past we have been stressing mainly on technical feasibilities, financial viabilities and to a lesser extent in community participation. But talking about rural water supplies or any other water supplies it is necessary that the people should accept what we are going to given them. It is because we have failed or paid little attention to this activity that probably some of our water supplies have gone into problems.

I should mention in this case as a good example, the Seelatenna water supply where it has been designed by some of our engineers and then implemented, but we were unable to maintain as this was rejected by the people. We took it up again with this concept of community participation and with the help of our social educators, social scientists and health educators to go into this village and then involve people in this scheme to work, side by side, with our staff and we have proved it that this is their water, their water supply scheme and they should participate. So in this respect we have succeeded in getting this water supply rehabilitated and it is functioning as a model now.

The construction of water supply is already one phase but the most difficult phase in the O&M and specially so, in rural water supplies where we need the participation of the people because, otherwise it is our experience that water supply schemes have been damaged as people have not accepted them. Finally a word of thanks to IRC of Netherlands for its support services for the implementation of this project. I extend by thanks to the UNICEF for providing us the necessary hardware for the project. Once again I wish this workshop a success and thank you all for participation.

SRI LANKAN NATIONAL WORKSHOP TO SHARE EXPERIENCES OF PUBLIC STANDPOST WATER SUPPLY AND SANITATION PROJECTS PLANNED AND IMPLEMENTED WITH COMMUNITY PARTICIPATION

2-6 DECEMBER 1985

12. 12 OPENING SESSION ADDRESS BY M. Sladen
INTERNATIONAL REFERENCE CENTRE FOR COMMUNITY WATER SUPPLY AND SANITATION

Honourable Secretary Mr. Chairman, Distinguished Guests, Ladies and Gentlemen:

It is a great pleasure for me to visit Sri Lanka again, to say a few words at the start of this workshop and to take part in it. I want to briefly mention something about : the theme and potential uses of this workshop as I see them; the multi-country Public Standpost Water Supplies project; gaps in knowledge and future needs in this subject area; and finally to make some acknowledgement of important contributions in Sri Lanka.

The theme of our week of study and discussion, standpost water supplies and sanitation, is a very relevant one. Community taps, shared by a number of families, will continue to be an important and appropriate level of service both for rural centres and for peri-urban areas. And yet, world wide, such supplies suffer from problems. Problems of shared and often badly-defined responsibility for operation and maintenance; problems of inappropriate application and application within a narrow project framework; problems of how to generate revenue; and above all, beneficiary communities that are often ill-prepared, poorly motivated and under supported.

In Sri Lanka, with its ambitious plans for the remainder of the Water Supply and Sanitation Decade and beyond, improvements in the use and effectiveness of piped supplies, old and new, and a reduction of the recurrent-costs burden often associated with them, would indeed be a useful contribution.

Piped supplies can clearly bring benefits of time-saving and convenience. To yield health benefits they must be accompanied by appropriate sanitation, (latrine facilities accepted and used by the people), and carefully implemented hygiene education. It is particularly appropriate therefore that the workshop is to address both standpost water supplies and sanitation, together with other vital components of success such as hygiene education and full community participation.

On the potential of this workshop it seems to me there are three main uses we can make of it

firstly to share views and experience of standpost supplies and sanitation, and of community-based approaches;

secondly to enable Sri Lankan staff of the Public Standpost Water Supplies and Sanitation (or PSWS) project here to present the project and get your reactions to it;

thirdly for us jointly to see how promising approaches, particularly those that are community based, can be further improved and used on a wider-scale within Sri Lanka.

The workshop has been organized by Sri Lankan staff in the context of the multi-country PSWS project. This is an information development and demonstration project and is supported by the International Reference Centre through Netherlands Government funding. Perhaps it is appropriate therefore that I say a few general words here about the project of which we will be hearing much more later:-

In brief the project was designed specifically to look into the problems of standpost supplies mentioned a moment ago. As a general objective it attempts to find better and more appropriate ways to plan, implement, and, most importantly, manage and operate such supplies. Project keynotes are very much in-line with the World Health Organization's Decade Strategy and include:

firstly use of broad yet integrated approaches in which aspects such as hygiene evaluation, sanitation, operation and maintenance, training and financial management, as well as the more technical aspects, are all taken into account;

secondly the promotion of community participation at every stage of project development;

thirdly the development of in-country activities by nationals themselves and through co-operation between existing national agencies.

fourthly the sharing of information and ideas within each country and between participating and other interested countries, in line with the TCDC concept.

The project began in 1983 and is underway in three other countries, Indonesia, Malawi and Zambia as well as Sri Lanka. I am pleased to mention that representatives of the project in each of these countries are with us this week and we can therefore also add their experience, of a similar project under different circumstances, to the discussion.

The International Reference Centre's role in the project is a low-key one and includes modest funding support, co-ordination between the countries taking part, support through regular visits, international activities such as workshops and meetings of national project staff, and, importantly, information exchange. In Sri Lanka there is good opportunity for cross-linking with the other IRC-supported activities on National Training Delivery Systems and information systems advice, available through POETRI.

The PSWS project in Sri Lanka has been co-ordinated and implemented by the National Water Supply and Drainage Board, with the active participation of the Ministry of Health and other Agencies. Although you will want to judge for yourselves, IRC feel that project staff here have made considerable progress towards the development of a more genuinely community-based approach to water supply and sanitation. Although more work remains to be done, the project has recently been subject to a generally positive international evaluation.

In particular, the demonstration schemes at Haldumullah and Seelatena show I think that schemes can be developed largely based on community self-reliance, providing the community is adequately advised and supported. Helping people to help themselves is the theme. Provided proper preparation work is done the community can be motivated to promote and adopt water supply and sanitation facilities as their own.

But demonstration of preparation and implementation is not enough. Facilities have to be sustainable in the long term, both in having adequate provision for operation and maintenance and in being able to generate sufficient funds to pay for these vital activities. As project staff well-recognise, the operational phases of the demonstration schemes have yet to be monitored and supported. Much still remains to be learnt, particularly on how to strike the right balance between community-based maintenance (and the caretaker training and simple manuals this requires) and higher level support.

Of course the objective of a demonstration project does not stop short at implementation and operation of demonstration schemes. Information coming from the project has to be shared, compared and contrasted with other experiences, successes built on, problems aired and solved. This workshop forms an important part of that sharing process. Concencus will, I hope, emerge for application of improved approaches on a much wider scale. The welcome development of a Rural Sanitation Unit in Sri Lanka, accelerating co-operation between the NWSDB, Ministry of Health and other Agencies together with participation of a wide range of organizations in this and other workshops, should all be vehicles for getting recomodations of the workshop used. Let us keep that 'practical objective' in mind.

On the future needs and many remaining gaps in knowledge on piped supplies and appropriate sanitation, I should like to highlight a few for later consideration :

I have already mentioned the need for further work on Operation and Maintenance and the revenue-generating mechanisms that go with this if continuity and reliability are to be assured. Important too for piped supplies are water quality aspects. And if community-based methods can indeed be successfully applied for new facilities in rural centres, how can they be adapted and improved for rehabilitation of old supplies, where communities may have become disillusioned with less-than-successful water projects? What of the special problems of the much less cohesive urban-fringe communities? How do we further promote community involvement in the choice of service level and type of water supply and sanitation, and how do community-based approaches need to be adapted for other types and mixes of systems? In what way can approaches respond to cultural and socio-economic variations between and within communities? Importantly, how do we improve the flow of information and experience, both to prevent mistakes being repeated and to ensure promising approaches are quickly used on a wider scale? And, a key question, if the community-based methods pay off, what are the future implications for human resources development generally and specifically for training of staff in the special skills needed to motivate and work through the community? And equally importantly, what are the financial implications of such training, manpower and project programming requirements?

These and many other issues are some that we will I'm sure be talking about in the workshop. They are subjects also I hope for continuing information development and demonstration activities in Sri Lanka and elsewhere in coming years.

I would like to close with some important and well deserved acknowledgements on behalf of the International Research Centre. Firstly to the national project staff of the PSWS Project here. They have made tireless efforts in developing the project and in giving new reality to the principles of community self-reliance and the parallel development of hygiene education, water supply and sanitation. We have been very pleased to see the large number of project initiatives that have been generated here in Sri Lanka, including this workshop which we very much support.

Special recognition must be given to the project co-ordinating institution, the NWSDB , for its continuing support of and committment to the project ; to the Ministry of Health for collaboration and release of staff ; and to all who participate in the inter-agency Project Management Committee and in co-operation at community and district levels.

I should also like to mention the support of International Agencies to the project, especially W.H.O. who have given technical and other input to the development of an innovative approach to the sanitation component and to many other aspects of project development; and UNICEF, for contributing to the cost of construction materials for the local demonstration schemes.

Mr Chairman, the International Reference Centre would like to wish the workshop every success, and we hope that through it, there will be further development, sharing and application of ideas for the greater benefit of the people of Sri Lanka. I am looking forward very much to hearing the views and experiences of fellow participants during this coming week.

Thank you.

13. THE ADDRESS BY WHO

Mr.Chairman, Mr.Jayawardene, Mr.Boyagane, Mr.Seager Mr.Kahane Representatives of UNICEF and Delegates

First of all I wish to bring the greetings of my organisation and of Dr.Notaney the WHO representative in Sri Lanka. He could not be here today because of his pressing work;

In 1978, at the International Conference that was held in Alma Ata the resolution was passed to accede the social goal of Health For All by the year 2000. Primary Health Care is the key approach. In the primary health care as you are all aware there are eight elements and out of the 8 elements, the one we are talking today is adequate safe water supply and basic sanitation.

The year 2000 is not so distant . So experiences gained in planning and implementating water supply and sanitation with community participation as the key approach are to be shared here with much deliberations from all facts are very appropriate. The experiences gained and recommendations generating from the deliberations will be useful not only for Sri Lanka but also for the other three participating countries and other developing countries.

WHO is happy to collaborate and extend its collaboration with the Government of Sri Lanka and also with the International Reference Centre, Netherlands.

I wish the workshop a success and useful deliberations.

14 THE ADDRESS BY UNICEF

Mr.Jayawardene Additional Secretary Chairman, delegates, ladies and gentlemens.

UNICEF has been cooperating with the Government of Sri Lanka in the provision of safe drinking water supply since 1971. In this time UNICEF has started the construction of 60 rural pipe water systems. The extension of service to urban slum areas through 559 public taps, the construction of 943 community wells with the hand pumps, the construction of family sinple latrines and the provision of 3279 community latrines were some of the UNICEF contributions. In addition UNICEF has cooperated with the Government of Sri Lanka, WHO and UNDPin the development of the first island-wide water supply maintenance and quality assurrance system. This activity has brought the provision of water supply and sanitary latrines to an estimated population of 250000 and 241000 respectively, of whome 67% are women and childre .

In 1979 UNICEF in cooperation with the National Water Supply and Drainage Board started a pilot project for the construction of 200 deep wells,For this purpose UNICEF supplied one down-the hole hammer tube well drilling rig. After the successfull completion of the pilot project, UNICEF decided to launch a major project with a target of 1000 wells. For this, UNICEF imported 2 more down the hole hammer rigs. This project, upto now has more than 2500 wells in operation in different districts of the country.

However, after all these experience, some main constraints have been identified. One of the biggest constraint is the lack of linkage between water and disease. That means we are asking the people to drink water but they don't do it. Why ? because they are not having the knowledge, that water can be so dangerous as may other things. This is one of the most important part when we are referring the community participation. That is, to try them to make them participate, utilize and accept the facilities provided by water projects.

The success of the project and in particular, its success not just, the demonstration project but as one which can properly be implemented.

The methodology adopted in your project stresses the need to include health education and community participation and in the planning, implementation and maintenance of the systems. At this workshop you will share the experiences you gained in the past couple of years and try to agree on practicle ways of providing water supply and (on practicle ways of providing water supply) and sanitation which can serve as guidelines for future projects and as bases for large scale investment.

The UNDP wishes you every success and expresses the hope that this workshop will prove to be of much value in the attaintment of decade goals and provision of safe drinking water and adequate sanitation to the people both of Sri Lanka and the other participating countries. Thank you very much.

A D D R E S S B Y U N D P

Mr.Chairman, Mr. Jayawardene, distinguished guests, ladies and gentlemens .

I must thank the acting chairman of the National Water Supply and Drainage Board for inviting UNDP to attend the oppenning session and participate in the workshop while we will not unfortunately be able to take regular parts ; I would like to show you, of our very best wishes for your success. We have not been actively involved in financing the implementation of the project but have been able to follow its progress from the very start. The NWS&DB and the IRC have kept us posted the information of all the activities. This has certainly helped us in our role as the Focal Point for the International Drinking Water Supply and Sanitation Decade to keep up to date with what is being going on in the numerous activities in the water sector in Sri Lanka.

From early 1979 to early this year in preparation for the work of the Decade we have the opportunity of help strengthen, the NWS&DB to ennable it better carry out its very responsible task as the main point for water supply and sanitation in the country. We wish to keep our close connection with the Board and to continue to assist the water and health sector to both national and number of inter country projects.

We feel that the public stand post water supply will have to continue to play and in fact, play much greater role in achieving the decade objectives or IWSSD. This is particularly applicable in rural areas and as previous speakers have mentioned in scattered urban, sub-urban , peri, urban areas where the cost of individual houses connections are infact prohibitive. There are the very areas of course, water supply is most badly needed. Another aspect which has been mentioned by previous speakers and I am sure will be much talked about during the course of the workshop is complementary between water supply and sanitation.

We must understand that community participation is, the people comming to participate to utilise and to accept the facilities and not the free labour th t sometimes we try to organise as community participation. Now that you are starting a new workshop, I would like to remind you and to tell you this that we have to change our ideas about the community participation. We have to create in the people, the awareness between water and disease, between latrines and disease. What is really between them ? We say O.K. lovely we have a hand pump, a tap or safe drinking water. But from there what happens ? We have a proper maintenance and an excellent system, We have a very good water quality in the tap. But from the tap to the mouth are we able to control this ? What are we going to do ? For an effective programme with the participation of the people, we must make them understand what they are doing and why they are participating. Thank you very much .

ADDRESS OF MR. D. JAYAWARDENA

[illegible], distinguished friends,

[illegible] role to [illegible] the importance of [illegible] programmes and [illegible] to what we [illegible] to [illegible] of [illegible] [illegible] rural communities [illegible] urban communities.

[illegible] this end in view it has [illegible] and implemented several [illegible] and programmes which have now borne fruits. I am sure most of you who are here today have been participants in the implementation of these very heavy programmes.

[illegible] achievements have been [illegible] and we have improved [illegible] considerably on previous expectation but still there is a long way to go.

[illegible] of our rural [illegible] are still affected by water borne [illegible] related diseases [illegible] attributed to high morbidity and poor life [illegible].

There is, therefore, much [illegible] to improve our performance. How do we do that ? By continously reviewing our achievements to improve our methods and strategies to improve productivity.

In effect we have to constantly review what we are doing to see that we achieve a higher level of productivity so that these activities can be sustained in the long run. The main problem as you are aware in developing countries such as ours, is scarse resources therefore cutting down cost achieving economies wherever possible ultimately make these [illegible] sustainable in the long run. One of the [illegible] this is at the [illegible] our work.

The community participation has been in its greatest splendour during the past. The stupendous irrigation tanks, the ancient roads were all built by our fore-fathers by mobilising the participation of the people to the fullest. This is our heritage we must not forget it, We must use it to the best of advantage.

Lesson therefore is to train the community to maintain the assets right from the beginning. Community participation also gives us the unique opportunity for community education. This is very important in our low income urban and rural communities especially the villagers.

With the high level of literacy in our country this cannot be a difficult task. If we make a serious effort we can easily make our rural people realise the advantages and benefits of improved sanitation to the community and the country at large. I am indeed very happy that with this object we in view the NWS&DB was able to conduct several demonstrational projects especially the Sudantenna and Haldummulla projects. It is therefore, moved that we review the experience with a view to developing the systems that will be replicable throughout the country I have no doubt that with the expertise available in this workshop such a task will be well done. Before I conclude, I must thank the Chairman of NWS&DB and the sponsrs of this workshop and all participants for inviting me to be at this seminar and I wish you all success.

Thank you.

17. FIELD VISIT BY PARTICIPANTS

3rd December, 1985

The participants were received by the Action Committee and the Volunteer Health Workers and the Assistant Government Agent, Haldummulla, at the Haldummulla Junior School. Participants were introduced to the community by the Project Staff (PSWS)

Mr.A. Hewavasamm a member of the Action Committee briefed the participants as to how the project was planned and implemented with the community participation. The Assistant Government Agent outlined all aspects of the project describing how it was developed to the present status. He said that nearly 95 per cent of latrine construction coverage was mainly due to health education which motivated the villagers to undertake the construction of latrines of their own. He stressed the significance of low cost technology which was within easy reach for the local community.

Mr.Palipana, Manager O&M,Bandarawala briefly mentioned the technical aspects of the Haldummulla Water Supply. Dr.E.A.Padmasiri MHO Bandarawela outlining the latrine construction programme said that the Health Ministry's subsidy of Rs.250/= was utilised in the constrution of latrines. He said the cost of a bag of cement and reinforcements issued to each beneficiary by the NWS&DB was recovered from the subsidy of Rs.250/= and reimbursed to NWS&DB. He described the process adopted and said that the success was both due to health education and low cost feasible technology.

The Project Staff outlined the health education activities carried out in the area. Thereupon the participants requested further clarifications on the following -

- The contribution by the community for the construction of the water supply system.
- The extent of women participation in project activities.
- The involvement of the Village Health Volunteers
- The construction aspects of the water - seal syphon
- The school health education programme and the schools' contribution.
- Cost aspects of the latrine construction programme.
- Composition of the Action Committee
- Location of standposts and the criteria used for selection
- Revenue generation plan and measures adopted for operation and maintenance.

After a lengthy discussion, the participants were taken to the village by the volunteers and the Action Committee members. The Project staff briefed the participants further and requested to utilise the field observation guidelines wherever they would feel and also to discuss with the volunteers, leaders and house holders for any information they wish to collect.

Every group of participants was accompanied by a team consisting of volunteers, action committee members and members of the Project staff.

Each group was requested to divide members into two to three groups, whichever the way they wished so that more houses could be covered. Each sub. group was requested to visit a minimum of 5 households, two to three standposts, location of reservoir and latrines constructed.

Location given to groups were as follows:

Groups	I	-	Haldummulla
Group	II	-	Haldummulla
Group	III	-	Egodawatta

Each group was provided with two to three resource persons. Although the rain has interrupted the field visit the participants were able to cover up the minimum requirements.

4th December, 1985

Field visit
- Seelatenna - Rehabilitation of water supply project.
- Sanitation programme - casting of water seal syphon at a villagers home.
- Meeting at Harankahawa School.
- Home visits - Harankahawa ,Rukattana, Hurihela
- Visits to standpost sites (rehabilitated)

Participants were received by the Principal of Harankahawa school, the Chairman of the Action Committee of Seelatenna by offering a heap of betel leaves to Mr.Micheal Seager, the Project Manager, PSWS, IRC the Netherlands.Welcoming the participants and the delegates from Malawi, Zambia and Indonesia the Chairman of the Action Committee outlined in detail the rehabilitation of the failed water supply of Seelatenna and the sanitation programme. He informed that what the community had done in respect of water supply and sanitation could be observed by the participants and the members of the Action Committee and other members of the community could furnish any information they wished to collect. He thanked the project staff in assisting them to develop their village.

Mr.Micheal Seager thanked the Action Committee for having received them warmly and briefed the participants as to what he had observed during his recent visit and requested participants to collect information as regards the project.

During the discussion the following major areas were discussed in detail by the participants.

19.1 REHABILITATION OF THE WATER SUPPLY SYSTEM SEELATENNA

- The technical resons for failure
- The socio.- cultural background for the failure of the water supply system.
- Water - Sanitation Related diseases and community priorities.
- The planning process.
- The contribution of the community and how it was planned.
- The health education programme particularly the methodology adopted in health education.
- The community participation and how it was mobilised.
- Plan for operation and maintenance
- The role of the Action Committee and care takers, the role of volunteers.
- Extension of the water supply by the community.
- Comparison of approaches - Haldummulla and Seelatenna.

17.2 SANITATION PROGRAMME

- The previous position as regards coverage of latrine construction.
- Health education programme implemented to generate community participation
- Characteristics of differences of methodologies implemented in Haldummulla and Seelatenna.
- The low cost technology adopted in the latrine construction programme.
- The role of the Action Committee and the Community.
- The construction of waterseal syphon .

The major emphasis of the discussion was on the methodology of health education and the latrine construction programme. The differences of approaches were explained by the Project Staff stating that the leaders and volunteers were trained together in Seelatenna and houses were allocated and they were all involved in the programme, whereas in Halduwmulla these programmes were done seperately and houses were allocated to volunteers only.

After the discussion, the participants were taken to a village home which developed itself as the village centre for the manufacture of syphons. The construction of a syphon was demonstrated step by step by a villager who is not a professional mason but developed himself skillfully in the art of turning out of a syphon.

It was brought to the notice of participants that the cost of syphon is around Rs.12/= which is about half a US dollar . The mould of the syphon was freely available if any householder wished to turn out his own syphon. The art of manufacture was known to most of the members of the community including even the upper class school children.

Once the demonstration was over the participants were briefed as regards the home visits. The groups were given the following villages with members of the Action Committee accompanying.

Group	I	-	Rukattana
Group	II	-	Harankahawa
Group	III	-	Hurihela

Since rain prevailed, the participants were taken to Hurihela. The rehabilitated water supply project and the latrines constructed under the project were demonstrated.

The water taps fixed to stand posts have caused some concern and it was noted that it was rather difficult to press the lever of the tap.The participants were generally pleased with the methodology adopted in the latrine construction programme.

5th December, 1985

Group Discussion Session

The groups were assigned the following tasks

Group	I	-	Community Participation - aspects
Group	II	-	Health Education Programme
Group	III	-	Technical aspects

Each group was requested to select a miminum of two problems and analyse them using problems analysis technique and find solutions through participatory planning process.

18. SUMMARY OF GROUP PRESENTATION - GROUP I - COMMUNITY PARTICIPATION

- It was the view of the group that a participatory planning process was in operation successfully involving people to make decisions as regards planning, implementation and evaluation of the water supply and sanitation project in Haldummulla and Seelatenna.

- The interests and enthusiasm displayed by the members of the Action Committee of Haldummulla and Seelatenna during the discussion session were suggestive of heir high level of motivation and dedication to the activities of the project.

- It was found that the project was planned and implemented with the people and the capacity of the community was developed through a well planned health education programme.

- Latrine construction programme appeared to be more progressive in Seelatenna than Haldummulla. It may be due to the developed syphon on Haldummulla experience.

- It was found that the community has organised "Shramadana" in order to accomplish their agreed portion of physical contribution. How much of this assessment made by the people was not clear.

- Deviation from the old system in locating standposts and leaving it to be decided by the people appeared to be a very strong element in both Seelatenna and Haldummulla. This will not only develop the feelings of self-reliance but also pave the way for its protection and operation and maintenance of water supply system. This type of participation should further be strengthened in giving people more responsibilities for instance, the installaction of the present tap was done without consulting them. Had they been consulted, the presently leaking tap would have never been fixed.

- The group felt that community should not be neglected even in technical matters where their decision also contributes for its success. Their potentials in attending to minor repairs should be harnessed.

- It appears that political constraints are affecting community participation at some stage of the programme. It is necessary that these constraints be identified early so that remedial measures can be instituted well in advance.

GROUP II

19. SUMMARY OF GROUP PRESENTATION - HEALTH EDUCATION ASPECTS .

The group had the following opportunities to get an understanding of the health education programme planned and implemented with the community in Haldummulla and Seelatenna.

- Briefing by the Project staff as regards the details of the programmes planned and implemented in the area.

- The video film and the slide presentation
- The Health Education plan and other reports of progress on both projects.
- The discussion sessions at Seelatenna and Haldummulla with the Action Committee members and the community.
- The demonstration session - construction of syphon by villagers.
- Home visits and discussions with the house holders.
- Discussions with the leaders and the members of the Action Committee.

For the purpose of field visit the group was divided into two groups. In association with the guidelines provided, data pertaining to the project were collected. The group paid major emphasis to health education aspects of the programme.

As regards the health education aspects, the group had noted two major elements of the plan. They are -

i Short term health education intervention.

ii Long term health education intervention.

Under the short term intervention the following programmes have been carried out.

i Orientation of health and other extension officers working in the area.

ii Orientation of school system involving them in a two day discussion programme.

iii Discussion Sessions with "Gramodaya Mandalayas"

iv Orientation programmes to all NGO's meeting them at their meetings and discussing the programme.

v. Consultation programme with Gramodaya and leaders in the area.

The long term health education intervention

i. Establishment of the Action Committee and continuation of health education activities with them and the community.

ii. Training of volunteer health workers.

iii. Establishment of school health councils in schools.

Helath Education by Ministry of Health Staff NWSDB Staff.

As for materials slides, flash cards and flannel graph materials were found used by the health staff and volunteers.

In Haldummulla programme leaders and volunteers were found seperately trained while in Seelatenna both volunteers and leaders were trained together and houses were allocated. It was noted that in Haldummulla only volunteers were given houses. It is interesting to note the efficency of both these methods if the impact is made known by the Project Staff.

Volunteers were found wearing identity cards. They had their note books but the notes made thereon are not clear. The forms given to them are comprehensive but records were to be kept accurately giving what they have actually done in the village. There were no opportunities to visit the school health councils and observe their activities.

Most of the non-technical decisions were found taken in consultation with the community. The location of standpost was decided by the community. It was built at the location they wished. This has been found to have increased the confidence of the community.

Although it was noted that the community was consulted at each phase of the health education programme it appears that the community has not properly been consulted over certain technical areas to which the community could have contributed some valuable assistance. For instance, if the technical officers had consulted the community regarding the installation of taps the present poor status of the tap would have been avoided.

The assessment of physical contribution by the community in terms of money should not be misunderstood to mean the real cost since it enhances the community attachement and spirits which would serve as an asset in sustaining the project.

The methods tried out in the projects have borne fruits and the group feels that these experiences should further be shared with others dealing with water and sanitation.

A special feature noted in the selection of volunteers was the democratic process in which the community selected there own volunteers and submitted for the concurrence of the Action Committee.

The training of volunteers was designed to suit the educational and other project functions of volunteers rather than theoretically based training programmes. This has proved to develop the potentials of the volunteers in that they had the confidence in disseminating the health message and motivating the community for project promotion activities.

The process was facilitated by the project staff in blocking out groups so as to represent 15 to 20 houses per stand post and there families are entrusted to select their own volunteers and care taker.

20. Summary of group presentation

Group III

Technical aspects of the water supply system and sanitation programme

During the field visit the group had the following opportunities.

- Two discussion sessions with the members of the Action Committee, villagers and extension officers who where involved with the project (Health, NWS&DB, M/LGHC, Education etc,) at Haldummulla on 3rd December, 1985 and Seelatenna on 4th December, 1985 at Harankahawa Vidyalaya. (Seelatenna Rehabilitation Project).

- Individual discussions with those members who were involved in the project.

- Reports and records of the project.

- Visit to the site, Haldummulla and Seelatenna.

- Visits to families and discussions with householders

- Visits to standposts and latrines constructed under the project

A village home where construction of syphon is undertaken for fellow villagers.

In considering the technical aspects of the project the group paid emphasis to the involvement of community participation aspects.

The source of Haldummulla Water Supply is from a spring named Kadiramma Canal originating from Idalgashinna range of monutains. A dam was constructed at a higher point (3700 above mean sea level) which is away from human habitation and water is brought down through gravity to a storage tank with a capacity of 25,000 gallons.

Water is chlorinated and then distributed to a population 2030 through 18 public standposts. The villagers served are Haldummulla , Halatutenna, Walhaputenna and Egodawatta, There were 11 private connections.

The source of Seelatenna Water Supply is also from a spring originating from Idalgas huna range of mountains. The water is stored in a tank which has a capacity of 25,000 gallons and chlorinated and distributed through gravity to a population of ..977..... through 20 public stnadposts. This water supply system was commissioned to villagers in 1984. It was reported that all the standposts were broken after , one week of its commissionning. Although repairs have been carried out occasionaly the system gave way and as a result an intermittant supply of water was made available. This failed system was taken up by the project and rehabilitated with community participation. All previous locations of standposts were changed to locations of peoples choice. Excavation of the new pipe line was done by the people on the advice by the NWS&DB staff.

Latrine construction programme of the Health Ministry was supported by the Project in issuing reinforcements and a bag of cement to each beneficiary and the costs were later recovered from the subsidy payment.

Low cost technology was found used in accelerating the latrine construction programme. At the village demonstration centre it was found that anyone in the village could turn out a syphon. It was reported that the construction cost of a syphon was about Rs.12/=.An excellent progress has been reported in achieving complete coverage of latrine construction in project villages. One of the most striking feature is the syphon the size of which was standardized to suit the model of the ceramic corporation. This has made provision for those who intend replacing this syphon to a ceramic one at a later date. The group is of view that the latrine construction programme in both areas is a success.

The group notes the following as regards the water supply system of Haldummulla and Seelatenna.

The standposts are of poor quality with few of the taps found leaking.

It was found that the community has not been consulted by the technical staff in installing taps.

It was found during field visit that the taps cannot be pushed easily even by elders. It is beyond reach of children who normally fetch water for home.

The technical staff appears to be paying little emphasis to community participation aspects of the programme.

The project has just been commissioned and not reached the operation and maintenance phase. How these aspects are intended to be covered are not correct.

Although it appears that the community has fully realized the importance of water through health education details of operation and maintenance particularly the revenue generation activities were not specifically made clear.

21. EVALUATION OF WORKSHOP

Evaluation of workshop was conducted on a semi structured format with open-end items. The purpose of evaluation was to determine to what extent participants have shared their experiences and to obtain their views and comments over the project. This was to some extent attempted in discussion sessions during pleanaries. In the format provided open-end items were provided to obtain participants free comments.

Thirty five participants completed evaluation and in the analysis of evaluation findings it was found that the objectives of participants in visiting the field have been rated very high (nearly 91. per cent). On the contrary participants had mixed and dubious feelings over the operation and maintenance. One notewarthy feature in the only open end item over the operation and maintencence nobody agreed to hand over the responsibility of operation and maintenance to Gramodaya Mandalaya.

As regards sanitation programme the participants feel satisfied over the use of the syphon with modifications (97 per cent) in future latrine construction programme. They have placed high confidence over self-reliance and self-help as dynamic elements in the latrine construction programme (94 per cent).

The evaluation findings are tabulated below.

21.1. EVALUATION RESULTS

Evaluation findings are summarised and given below (Calculated in per centages)

21.1 1. The presentation of reports by other Agencies.

		Percentage
a.	Very useful	32.1
b.	Useful	53.6
c.	Useful to some extent	14.3
d.	Not at all useful	NIL

21.1. 2. **Usefulness of slide presentation prior to field visit of participants**

	Percentage
Very useful	35.7
Useful	57.1
Useful to some extent	7.1
Not at all useful	NIL

21.1.3
3. **Effectiveness of video film in using as a support material for community participation.**

	Percentage
Very effective in giving the message	50
Effective	35.7
Effective to some extent	14.3
Not at all effective	NIL

21.1.4.
4. Achievement of objectives of field visits

		Percentage
Achieved to the greatest extent	10	15.2.
	9	15.2
	8	30.3
	7	12.1
	6	9.
	5	6.
	4	6
	3	NIL
	2	3
	1	3
Not at all achieved	0	NIL

21.1.5. **Achievement of participants objectives in visiting the field:**

Not at all achieved	0	NIL
	1	NIL
	2	NIL
	3	NIL
	4	2.8
	5	2.8
	6	2.8
	7	25.7
	8	31.4
	9	28.6
Achieved to the greatest extent possible.	10	5.7

21.1.6. Discussion session with community in seelatenna :

	Percentage
Very effective	25.7
Effective	51.4
Effective to some extent	22.9
Not at all effective	NIL

21.1.7. Discussion session with community in Haldummulla :

	Percentage
Very effective	22.9
Effective	57.1
Effective to some extent	22.9
Not at all effective	NIL

21.1.8. **Feasibility of the methodology adopted in rehabilitating the failed seelatenna P.S.W.S. project :**

	Percentage
Highly feasible	11.4
Feasible	62.6
To some extent feasible	22.9
Not at all feasible	NIL

21.1.9. **Suitability of the syphon for use in latrine construction programme with further modifications :**

	Percentage
Highly suitable	34.2
Suitable	62.9
Suitable to some extent	8.9
Not at all suitable	NIL

21.1.10. Methodology in latrine construction programme :

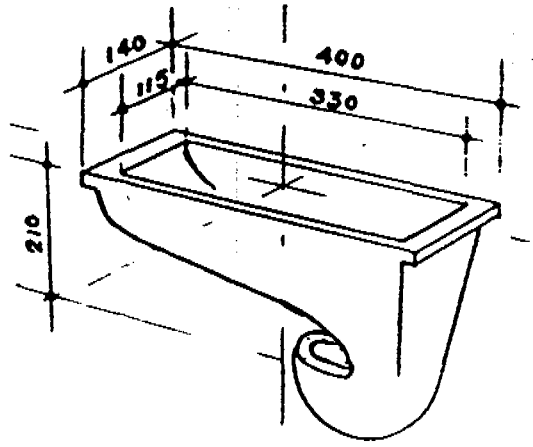
	Percentage
Very effective	28.6
Effective	57.1
Effective to some extent	14.3
Not at all effective	NIL

21.1.12. Most suitable agency to take full responsibility of the project for operation and maintenance :

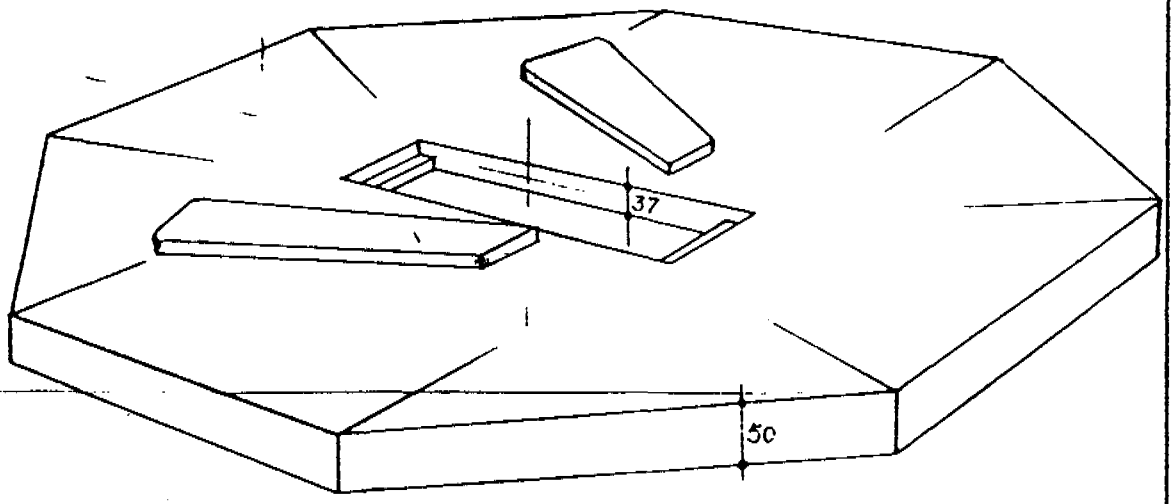
	Percentage
Present Action committee including Gramodaya representatives	40.6
A special water committee	31.2
Local Co.operative society	NIL
Gramodaya and sub. office of D.D.C.	12.5
NWS&DB	3.1

Only 32 participants have evaluated.

FIGURE 1



POUR FLUSH
WATER SEAL UNIT



1000mm WIDE OCTOGONAL
SQUATTING PLATE

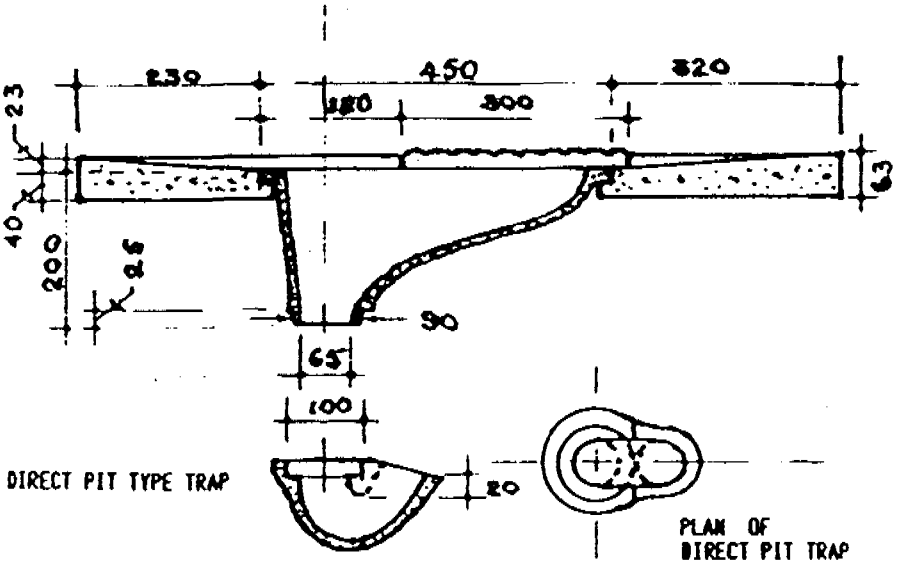
STANDARD SRI LANKA POUR - FLUSH LATRINE
SQUATTING PLATE AND WATER SEAL

FIGURE 2-A

REVISED POUR FLUSH W.C. PAN & PLATE

(1000mm x 800mm x 63mm)

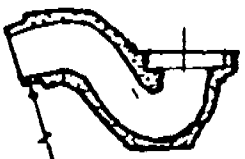
SECTIONAL ELEVATIONS



DIRECT PIT TYPE TRAP

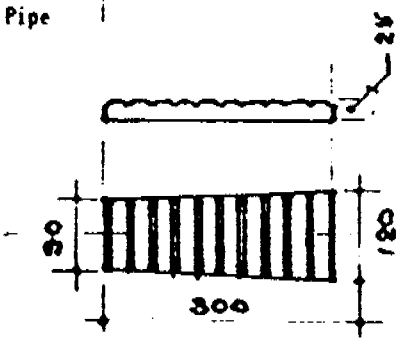
PLAN OF DIRECT PIT TRAP

Note. Dotted portion of trap is moulded separately or built manually into assembly



OFFSET PIT TYPE 'P' TRAP

Outlet Sized 90mm to fit 3.5" PVC Drain Pipe



FOOT TREADS

Scale 1 : 10

23

FIGURE 2-B

REVISED POUR - FLUSH LATRINE PLATE AND WATER SEAL

(Sketch Not to Scale)

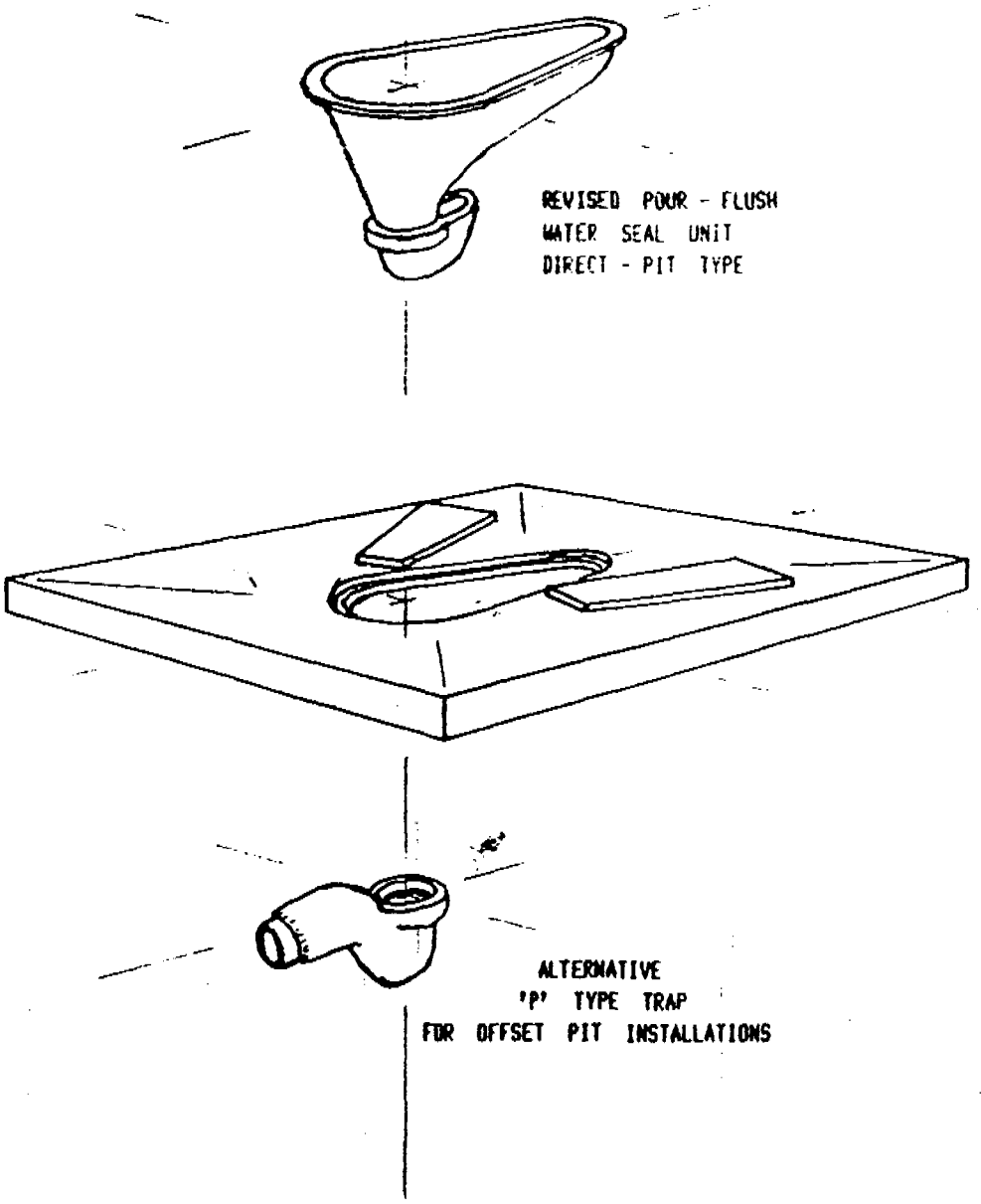
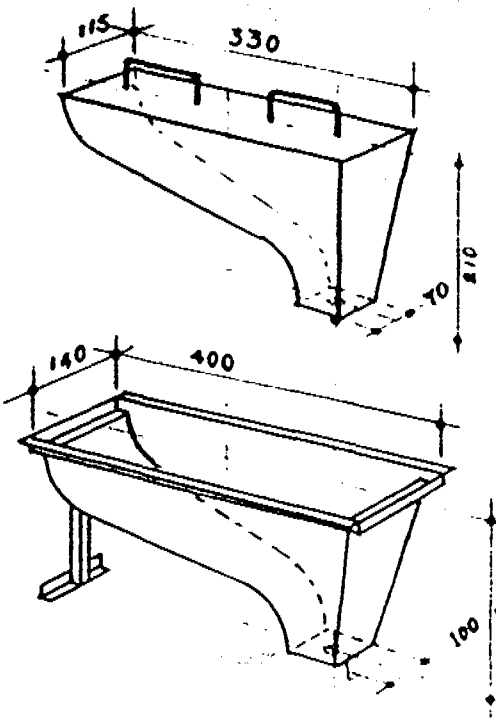
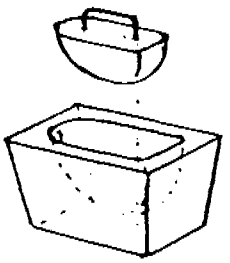


FIGURE 3

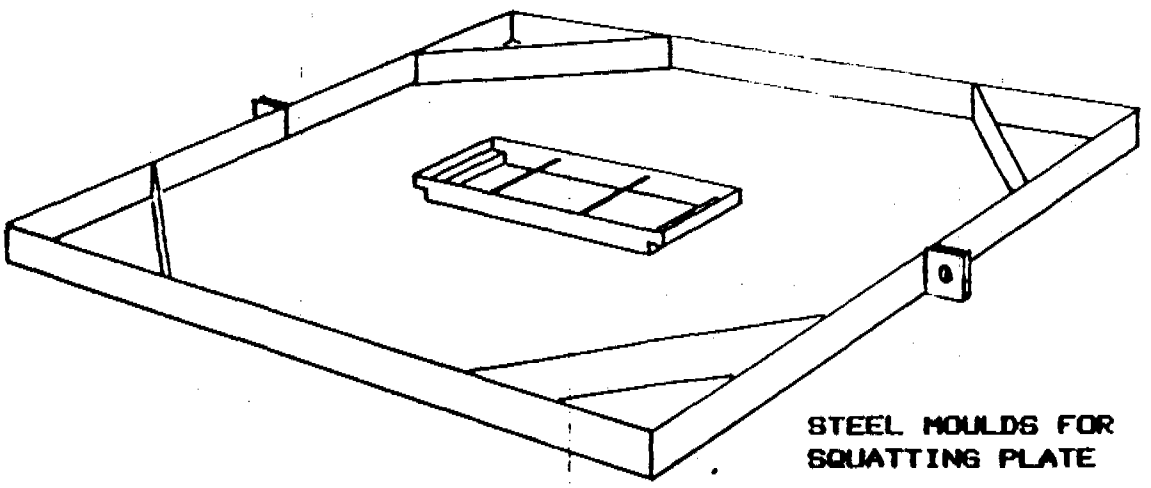
MOULDS FOR PRODUCTION OF STANDARD SRI LANKA POUR - FLUSH LATRINE PLATE AND WATER SEAL



STEEL MOULDS FOR W.C. PANS



CEMENT MOULDS FOR WATER SEAL

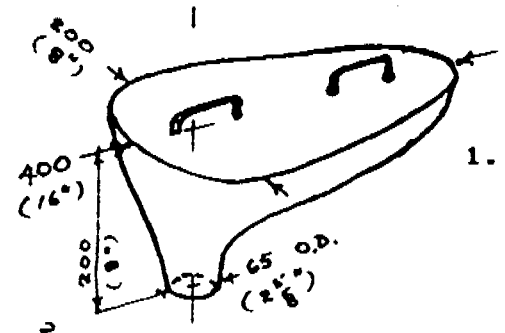


STEEL MOULDS FOR SQUATTING PLATE

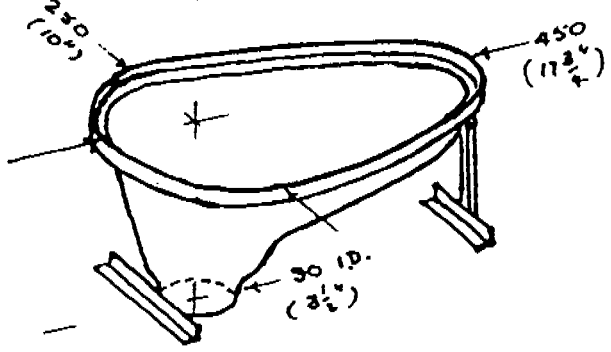
FIGURE 4-A

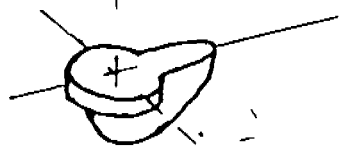
MOULDS FOR PRODUCTION OF REVISED CEMENT POUR-FLUSH WC

(sketches not to scale)

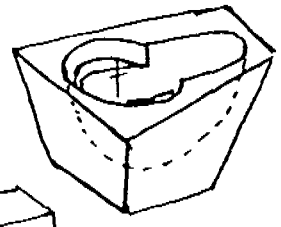


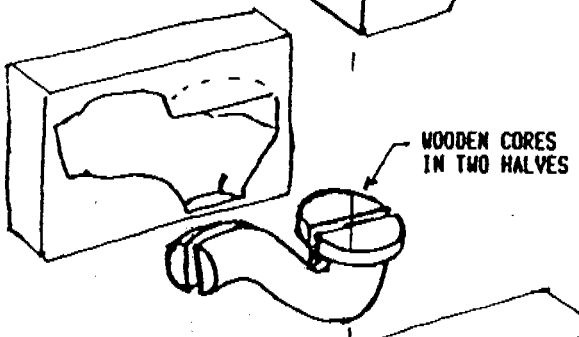
1. STEEL MOULDS FOR WC PANS (16 guage steel)





2. CEMENT MOULDS FOR DIRECT PIT TYPE WATER SEAL





3. WOODEN & CEMENT MOULDS FOR INDIRECT PIT TYPE WATER SEAL

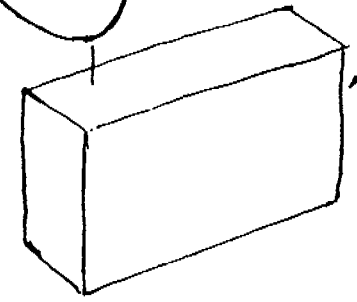
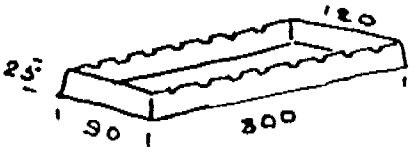


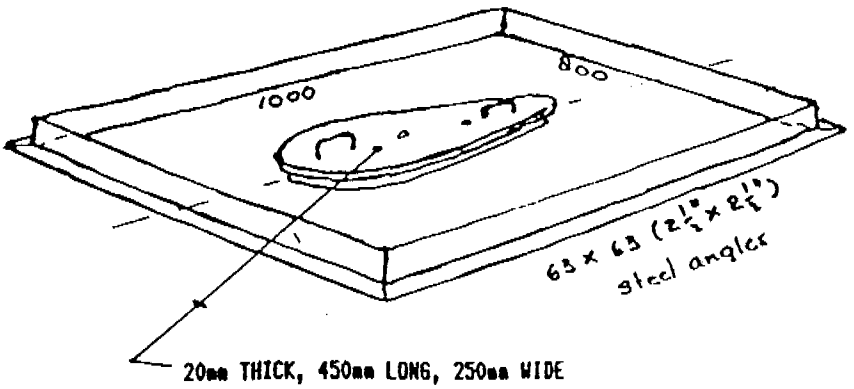
FIGURE 4-B

SQUATTING PLATE MOULDS OF STEEL FOR REVISED POUR - FLUSH LATRINE

(Sketches, Not to Scale)



STEEL FORM FOR FOOT TREADS

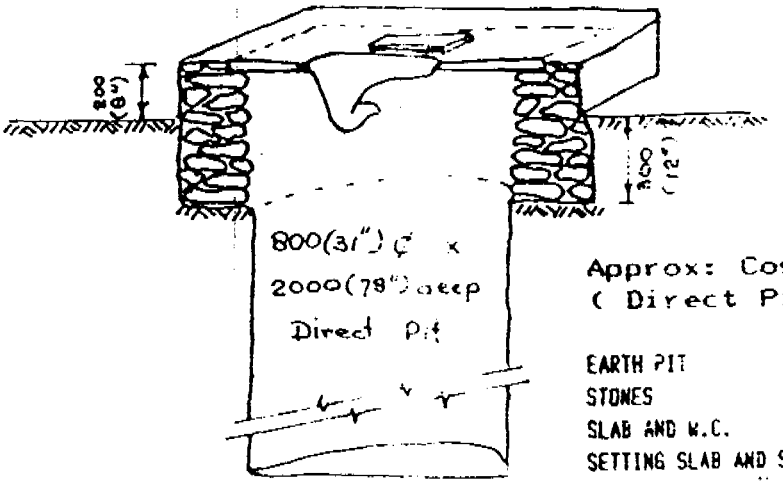


20mm THICK, 450mm LONG, 250mm WIDE CONCRETE PLATE, STEEL OR WOOD MADE TO THE SHAPE OF THE TOP OF W.C. PAN PLACED ALONG THE CENTRAL AXIS AND APPROXIMATELY 230mm(9 in) FROM THE REAR.

FIGURE 5

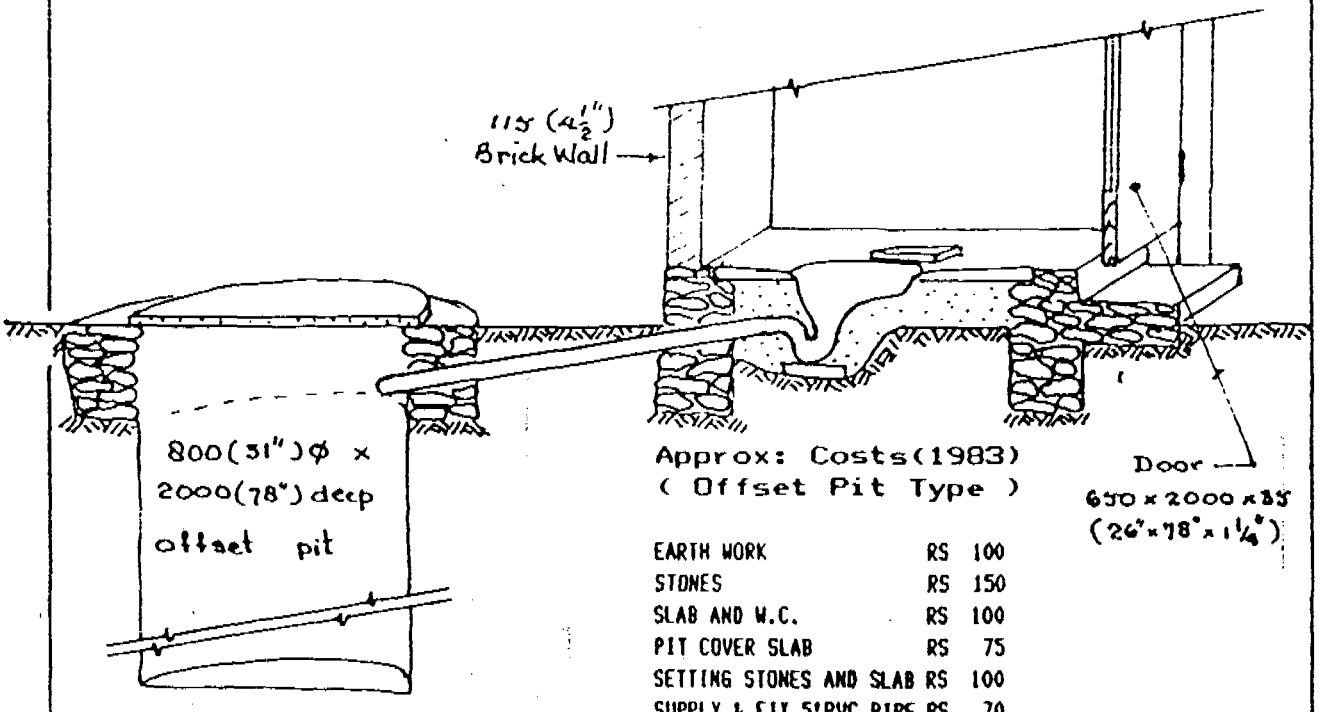
SKETCHES FOR CONSTRUCTION OF TYPICAL POUR - FLUSH LATRINES

(Direct Pit and Offset Pit Types)



Approx: Costs(1983)
(Direct Pit Type)

EARTH PIT	RS	90
STONES	RS	60
SLAB AND W.C.	RS	100
SETTING SLAB AND STONES	RS	50
TOTAL	RS	300



Approx: Costs(1983)
(Offset Pit Type)

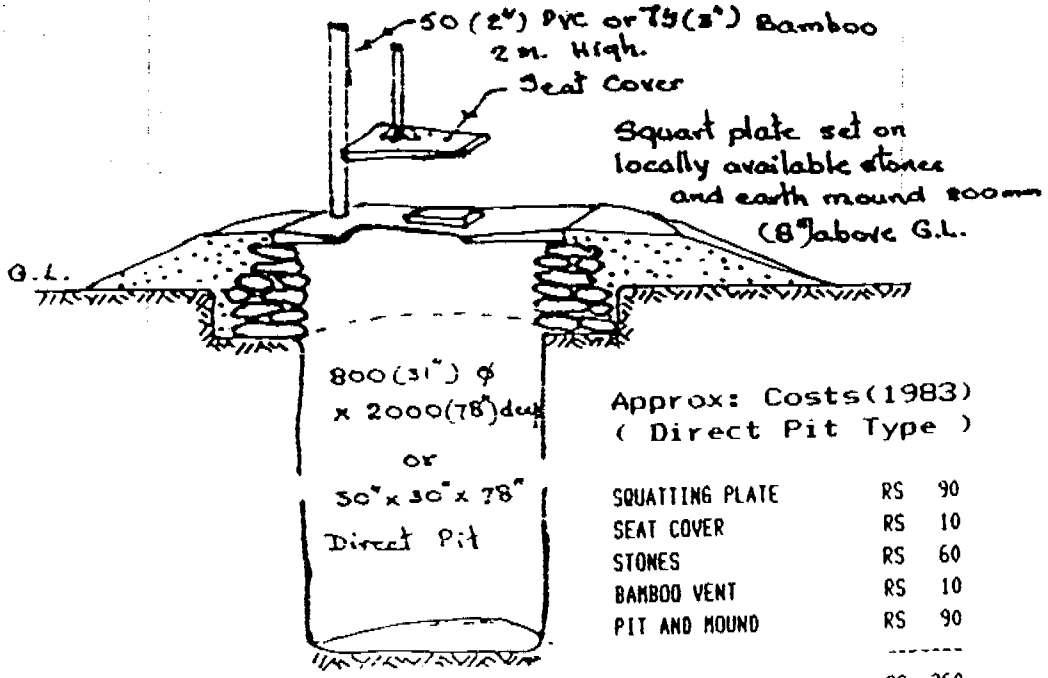
EARTH WORK	RS	100
STONES	RS	150
SLAB AND W.C.	RS	100
PIT COVER SLAB	RS	75
SETTING STONES AND SLAB	RS	100
SUPPLY & FIX 5"PVC PIPE	RS	70
SUB TOTAL	RS	595
SUPER-STRUCTURE IN HALF BRICK & TILED ROOF	RS	1750
TOTAL	RS	2345

e. A number of variations are possible;depending on local conditions, availablity of materials and individual requirement.Costs will also vary accordingly

FIGURE 6

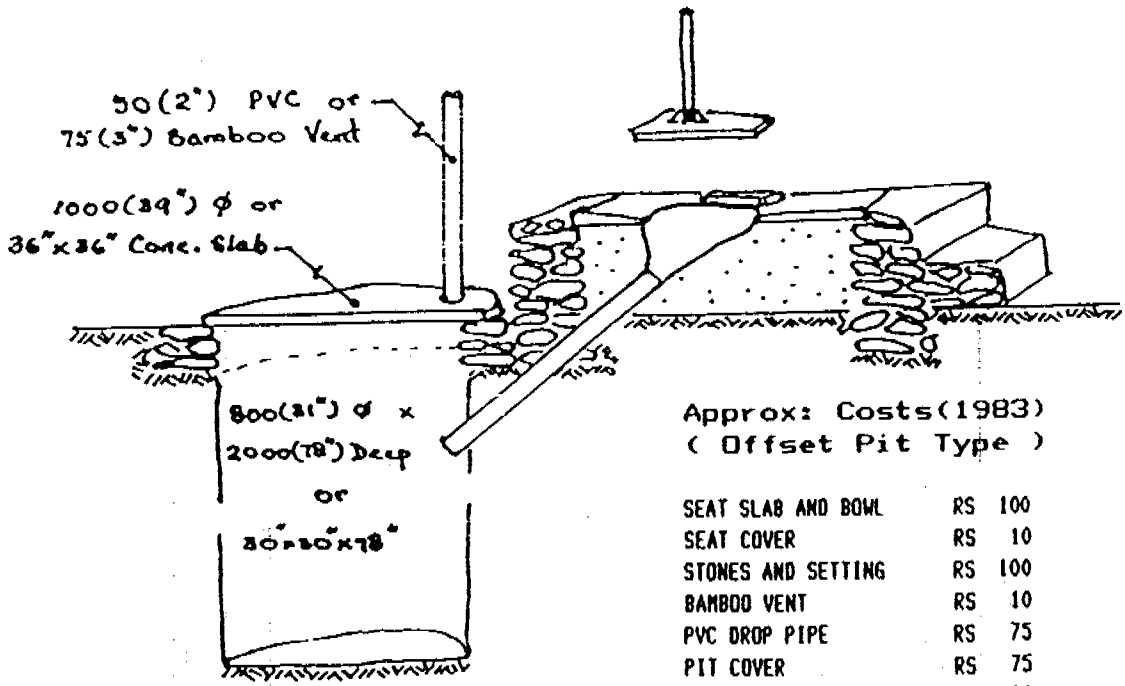
SKETCHES FOR CONSTRUCTION OF TYPICAL VENTILATED PIT LATRINES

(Direct pit and offset pit types)



Approx: Costs (1983)
(Direct Pit Type)

SQUATTING PLATE	RS	90
SEAT COVER	RS	10
STONES	RS	60
BAMBOO VENT	RS	10
PIT AND MOUND	RS	90
TOTAL	RS	260



Approx: Costs (1983)
(Offset Pit Type)

SEAT SLAB AND BOWL	RS	100
SEAT COVER	RS	10
STONES AND SETTING	RS	100
BAMBOO VENT	RS	10
PVC DROP PIPE	RS	75
PIT COVER	RS	75
PIT	RS	90
TOTAL	RS	460

- A number of variations are possible; depending on local conditions, availablity of materials and individual requirement. Costs will also vary accordingly

TECHNICAL ASPECTS IN COMMUNITY BASED MANAGEMENT PROJECT IN INDONESIA

by

Buce Syahbudi

PUBLIC STANDPOST WATER SUPPLY TEAM
I N D O N E S I A

I. PROBLEMS OF TECHNICAL ASPECTS IN WATER SUPPLY

a. In general most of the Caders are are very unknow on Technical Water Supply Provision, especially in the following design and implementation such as :
   - How to estimate the budget.
   - Description of works
   - Technical specifications

b. Most of the Caders have less skill due to weakness of their educational background therefore difficulties in catching the technical aspects by the caders could not be avoided.

II. SUGGESTED STEPS TO SOLVE THE PROBLEMS.

Based on the experiences several methode can be [illegible]

a. Course
   Caders are given general knowledge on Design Water Supply facilities and techniques pertaining

- Estimating water demand
- Selection resources
- Calculating the diameter of pipe used
- Measuring elevation
- All sort of pipes and accessories
- Deciding the spots and number of standpost
- Description of works and technical specifications
- Estimating budget
- Building a spring capping (spring collection structure)

b. Participation on Planning

After course, caders are trained to prepare design in the water supply and the budget.
For example in JAGASARI village :

- Caders together with Head of village conducted a survey social economi and water resources
- Drawing moderate map and plot housing
- Application on the theory given in the course

c. Technical Aid

After the mentioned point a and b completed it is found that Public Standpost Water Supply team still have to assist the Caders in implementing the theory.

III. CONCLUSIONS

1. Over estimate their own skill applying the theory given for example in CIKIJING IKK Water Supply Project Caders connected pipe unproperly without any notice to the project.
2. Selection should be made for caders who will handle the technical aspects.
3. To standardize moderate design in order to make caders understand more easily.

4. Nevertheless one good point i.e. Caders after the construction are able to operate water supply, maintain and make a good organization

ACKNOWLEDGMENT

This paper is prepared with the assistance of the Institute of Human Settlements, of the Ministry of Public Works. Special credits should be given to Messrs Ritonga, Djauhari Sutamintardja, Parwoto and Mrs. Nurhasanah to whom I would like to extend the gratitude.

And a special atribute is also adressed to the IRC which encourage this presentation.

December 2nd 1985.

Annex 1

PUBLIC STANDPOST WATER SUPPLY PROJET IN INDONESIA

1. BACKGROUND

The supply of clean water for all people is reach the objectives to meet the basic needs of human being, to improve the health, prosperity and quality of life. In most developing countries there is a gap between the supply and demand for water which is mostly caused by limited availability of development funds. The backlog of required clean water is due to the high growth of population and the increasing trend of urbanisation in the developing countries. On the other hand water resources become scarce commodities which are needed by other sectors other than for human consumption. In order to fulfill the need for water, we have to follow certain approach, strategy and methodology which include among others design criteria, level of service, appropriate technology and intensive participation of the community in the water supply development.

The water supply development in Indonesia has been carried out in stages since the commencement of the first Five Year Development Plan 1969 1974 (REPELITA I) in which the initial efforts were to rehabilitate the existing systems to put back in their original capacities. Further development was realized through implementation of REPELITAs in which the water production and distribution were expanded, covering more cities, towns and rural areas.

The Government of Indonesia as all government in the world supports the launching of the International Drinking Water Supply and Sanitation Decade 1981 - 1990, which coincide with the implementation of REPELITA III (1979 - 1984) and REPELITA IV (1984 - 1989). The target of supply coverage is 75% of the urban population and 60% of the rural population by 1990.

The important policy in water supply development is mainly to fullfill the basic needs which is fixed at 60 litres/capita/day average, by supplying through house connections (HC) and public standposts (PS). The ratio of population served through HC and PS is 1 to 1. This ratio can be made flexible by considering the local conditions. This policy is introduced for the purpose of supplying clean water especially for the low-income groups and at the same time make it possible to apply cross-subsidy amongst consumers through water-tariff structures (progressive charge).

The roles of public standposts are still important in Indonesia even in a big city like Surabaya (population 2.5 mio) in which approx 3,500 standposts still serve water to more than half a million people. This situation is especially valid when the production capacity and distribution networks are still limited in comparison to the demands.

In the rural areas the use of handpumps are promoted wherever the shallow aquifers are in existence, however, if spring water sources are available simple piped water systems should be used if the community whishes so. The appropriate system of distribution in this simple system is the public standposts due to the following considerations : limited capacity of supply, ability to pay-for-water and level of service applicable to rural areas and operation and maintenance aspects.

The application of public standposts in water distribution system will need full participation of the community, otherwise the system will be deteriorating or abandoned after some time. This participation ideally starts from the formulation of the project until the utilization stage upon completion of a water supply project.

2. THE NEED FOR COMMUNITY PARTICIPATION

Through the experiences gained in the small towns or capitals of district water supply projects particularly with regard to the public standpost, the community participation is observed as the determinant variable to the successful operation and maintenance of the completed facilities conducive to multisectoral developments.

Besides, the trend of the government policies in relation to physical development in general is to shift its role from mainly as a provider to mere as a facilitator. This means to encourage community participation in all stages of development projects.

Considering this situation an action research on participatory project planning to stimulate community participation is carried out by the Ministry of Public Works in collaboration with the International

Refference Centre for Community Water Supply and Sanitation (IRC), and establish a "demonstration project" which could be replicated later on.

The main aim of this demonstration project is to seek a proper development strategy to establish and manage community water supply through standpost with intensive popular/community participation as a catalyst to generate broader development activities.

Since the fund provided by the Netherlands Government through IRC to support this demonstration project is only covering the software sides of the project, then for the hardware sides it is financed through various existing development projects such as Capital of District Water Supply Projects, Inpres (Presidential Instruction Projects) for water supply, other projects within the Directorate of Water Supply - Ministry of Public Works, and community self-relience projects, etc.

Among others, the main objectives of this demonstration projects, are :

a) To develop a model of standard procedure for establishing participatory project which provides room for bottom up planning.

b) To develop an integrated planning of community water supply standpost covering all vertical stages of the project from the initial stage to operation and maintenance stage, and related horrizontal aspects of water supply such as health education, and sanitation.

In short, the demonstration project is attempting to provide answers for questions of how to establish and manage a public standpost water supply project with intensive participations of targeted community.

3. THE DEMONSTRATION PROJECT

3.1. The Approach

The word of top down planning and bottom up planning very often are used to denote a planning which is centrally decided or a planning which is prepared and decided by the government and a planning which is prepared and decided by the community, respectively.

In practice, the experiences demonstrate that what are planned by the government are not always accepted by the targeted community and vice versa.

In the case where the top down planning is imposed then what is likely to happen is that the result of the completed project is not properly utilized and maintained by the community as a result of lack of sense of belonging. On the other hand where the bottom up planning is practiced very often is rejected by the authority.

The main reasons which have led to that situation among others are, when the decission is purely in the hands of the authority the project

very often does not conform to the needs and priorities of the community, but when the decission is purely in the hand of the community it is very often the project will be lacking in nationwide perspectives and technically inferior.

Taking into account this situation the relationship between the top down and the bottom up planning need to be established in order to fill the gap between the two. On that basis a participatory project planning which accomodate the aspiration of the government and the community has to be developed.

3.2. Legal Basis

The legal basis lupon which the model for participatory project planning is developed, are :

a) Basic Guidelines of Stat's Policy 1983

b) Ministry of Home Affairs Instruction No. 4/81, imposing the bottom up planning approach for development projects.

c) Presidential Decree No 28/1980, on the establishment of Community Resiliency as a means for community participation.

3.3. The Methodology

a) The Actors

As indicated before, the important point in establishing a development project is the issue of "who decide" which is associated with the sense of belonging, which in turn sustains the continuation of the operation and maintenance of the completed projects.

In this demonstration project, therefore, the actors involved are clasified in threefold :

The main actors : The actors who convey the message
The participants : The actors who recieve the message
the fasilitators : The actors who facilitate the development progress take place

However, the concept of main actors, particpants, and facilitators is an abstract concept to give distinction of the actors in relation to their function in that particular step of development process, which in turn will generate the sense of belonging as each actor subsequently will be the main actors as well.
And in order to maximize the cooperation between the authority and the community and to avoid the notion of top down and bottom up, the steps of the demonstration project are directed to involve the authority as well as the community.

b) The Steps for Participatory Project Planning

The steps which are demonstrated through this demo project basically

can be grouped in four stages as follows :

The first stage is mainly aimed at reorienting the authorities in order to get support in handling the demo project and training the trainer in order to enable the multiplication the demo project.

The first stage includes :

At Provincial Level

Step One - Consultation with Provincial Authority

Objective : To draw supports and establish coordination
Main actor : The programme holder (Public Standpost Water Supply Project/PSWS)
Participants : The Sponsor of Village Community Resiliency Organisations (LKMD) at Provincial Level and the Provincial Development Planning Board (BAPPEDA Level I)

Step Two Cross sectoral and programme meeting

Objective : To draw supports and integration of the programme
Main actor : Bappeda level I
Participants : Related sectoral institutions and programmes

At Municipal/Regency Level

Step Three - Consultation with the Authority of the Municipality/ Regency

Objective : To draw supports and establish coordination
Main actor : Bappeda Level I
Participants : The Sponsor of LKMD at Municipal/Regency level

Step Four - Cross sectoral and programme meeting

Objective : To draw supports and synchronization in handling the project, and to get the consensus of location of the demo project
Main actor : Bappeda Level II (The Development Planning Board at Municipal/Regency level)
Participants : Related sectoral institutions and programmes at Municipal/Regency level

Step Five - Preparation of trainers for training the Development Cadres

Objective : To select and appoint the trainers
Main actor : The Regent or Head of Bappeda Level II
Participants : Services, Water Supply Unit/Enterprise and District Health Service.

Step Six Training of trainers

Objective : To form the trainers for participatory project planning

Main actor : Welfares Srvice
Participants : Representatives of Services of Village development, Welfares, Water Supply Enterprise and Sanitarians of the District Health Centre

At District Level

Step Seven - Consultation with District authority

Objective : To draw supports and consensus for field works and determination of location
Main actor : Bappeda Level II
Participants : Head of the district, sponsor of LKMD and Women Association and Head of the village

Step Eight - Cross sectoral and programme meeting

Objective : Synchronization of detail steps among programmes/ projects at district level
Main actor : Head of the district
Participants : Related sectoral institutions and programmes

Step Eleven - Training of Cadres

Objective : To create community development cadres who will become the mediator for outsiders and motivator for the community in the participatory project planning
Main actor : Head of the district and the trainers.
Participants : Representatives of the community

At Desa (Village) Level

Step Nine - Consultation

Objective : Subdivision of project area and to get consensus of the steps and methodology
To draw supports from the community
Main actor : Head of the District, Village Development Unit
Participants : Head of the village, LKMD and Women Association

Step Ten - Formation of the Development Cadres

Objective : To select the development cadres who are nominated by the community
Main actor : Head of the village
Participants : LKMD, neighbourhood organisation and prominant persons in the community

The second stage is mainly aimed at the establishment of community development cadres to conditon the community and to carry out the particpatory project planning.

This stage includes :

Step Twelve - Community Self-Survey

Objective	: To identify the problems, obstacles and potential of the community
Main actor	: The development cadres

Step Thirteen - Identification of problems

Objective	: To get consensus of problem formulation and solution with the community through village gathering
Main actor	: The development cadres and LKMD at village level
Participants	: The community
Facilitator	: The trainers, PSWS team, corresponding sectors

Step Fourteen - Determination of level of change

Objective	: To get consensus of the direction of development and level of services required
Main actor	: The development cadres and LKMD at village level
Participants	: The community
Facilitator	: The trainers, PSWS team, corresponding sectors

Step Fifteen - Diagnosis

Objective	: To find the obstacles which prevent the level of change determined in step 14
Main actor	: The development cadres and LKMD at village level
Participants	: The community
Facilitator	: The trainers, PSWS team, corresponding sectors

Step Sixteen - Identification of resources

Objective	: To get consensus of the contribution of each member of the community and possible resources from the outside
Main actor	: The development cadres and LKMD at village level
Participants	: The community
Facilitator	: The trainers, PSWS team, corresponding sectors

Step Seventeen - Planning alternative solution

Objective	: To get consensus of the achievements based on the availability of the resources (Natural, human, social and economic resources) Setting out the development committee to carry out the construction in the field
Main actor	: The development cadres and LKMD at village level
Participants	: The community, neighbourhood organisasion and other community leaders
Facilitator	: The trainers, PSWS team, corresponding sectors

The third stage is mainly aiming at the implementation of the alternative solution as agreed in step 17

This stage includes :

Step Eighteen - Construction

Objective	: To construct the facilities as agreed and planned in step 17
Main actor	: The development committee
Participants	: The members of community and the development cadres
Facilitator	: The trainers, PSWS team, corresponding sectors

The fourth stage is mainly aiming at the evaluation of the project by the community, development committee, the development cadres and the district authority

This stage includes :

Step Nineteen - Evaluation

Objective	: To have internal evaluation by immediate actors involved in order to increase their confidence which in turn will sustain the community self reliance. To seek the possible improvement in the future activities
Main actor	: The Head of the village and the development cadres
Participants	: LKMD and immediate actors involved
Facilitator	: The trainers, PSWS team, Head of the District and sponsor of LKMD at district level

Note :

The document of alternative solution development in step 17 should include :

a. The design of the facility/services.
b. The description of the works and technical specifications.
c. The budget planning and resources allocation.
d. Planning for operation and maintenance after construction, including the organization.

4. IMPLEMNTATION

The implementation of this public standpost water supply project was started in 1982 by the Ministry of Public Works in cooperation of the Internation Reference Centre for Community by Water Supply and Sanitation (IRC). The first two years the time was allocate for preparatory activities such field surveys, seminar on public standposts at national level, selection of areas for demonstration projects, guidelines for promotion of community participation, curriculum of trainings, workshops with local governments, manuals for planning and design, etc.

The physical development of public standposts was realized in 1984, in three areas in the West Java Province. The three areas were determined, each having different geographical characters as coastal, flat and hilly areas. The construction of the facilites was started after the approach and methodology as mentioned before were carried out fully.

By this way it is expected the result of the demonstration projects can be used for further development of water supply schemes using standposts for distribution of clean water to as many people as possible. For more details Annex 1 and 2 of this paper describe the demonstration project.

The first evaluation of the project was carried out in 1985 by the team of the Ministry of Public Works and the IRC. The evaluation covers four broad fields of study : the basic concept of the project, relevancy of the project with regard to long range objectives within the water supply and sanitation sector including the policy and priorities of the country, the effectiveness, and the efficiency of the projects. Further evaluation is required since the target community are still expanding the facilites by themselves.

A preliminary conclusion can be drawn however, that although the time required to implement the project is considered a long one but the result is more solid in the form of appreciation of the communities for clean water and their committment to operatorate and maintain the facilities properly in the comming years.

Annex 2

SUMMARY
OF
PUBLIC STANDPOST WATER SUPPLY DEMONSTRATION PROJECT
IN INDONESIA

BACKGROUND

This project is a demonstration project carried out within framework of collaboration between International Agency namely International Refference Centre for Community Water Supply and Sanitation (IRC) stationed in Netherlands and the Government of Indonesia which is represented by the Ministry of Public Work.

The main aim of this demonstration project is to seek proper development strategy to establish and manage community water standpost with intensive popular participation as a catalyst to generate broader development activities.

In order to get optimum feedback of each step undertaken in executing the project, and to have a final finding which covers all gradual chunging of aspirations and needs of intended target group as a result of development process generated in that area, the project is established as an action research project which in turn the final finding of this project will be developed into modal for futher used in nationwide programme.

Besides, in 1981 the Minister of Home Affair also imposed bottom up planning approach through issuing Ministrial decree No 4/1981 (Inmendagri No 4/81) as the application of the government policy stated in the National Basic Guideline to encourage popular participation in all development projects. This decree No 4/1981 then was determined as the legal basis of this project.

Since the fund provided by the Netherlands Government through IRC to support this demonstration project is merely covering the software side of the project then for the hardware side of the project is finance through various existing development project such as PAB IKK (Capital of District Water Supply Project) Inpres project (Presidential Instruction Project) for water supply, other projects within the Directorate of Water Supply - Departement of Public Work, community selfreliance projects, etc.

OBJECTIVES

1. To develop a model of standard procedure for establishing participatory project which provides room for bottom up planning.

2. To develop an integrated planning of community water standpost covering all vertical stages of the project from the initial stage to O + M stage, and related horrizontal aspects of water supply such as health education, and sanitation.

ORGANIZATIONAL ASPECT

To carry out this project at the national level a Project Management Committee (PMC) consisting of members from the Ministry of Public Work, Ministry of Health and Ministry of Home Affair is established to ensure the integration of approaches, strategies, objectives and programmes among Ministries involved, and to provide policy guideline for planning and implementation of this project. This PMC is chaired by the Director General of Cipta Karya (Director General of Human Settlement).

The Institute of Human Settlements then is appointed as Project Coordinating Institution to execute and coordinate various participating Institutions involved. And for day to day operation of the project a senior staff member of the Institute of Human Settlement is asigned as Project Manager assisted by three teams consisting of members from Ministry of Public Work, Ministry of Health and Local Authorities to take care of the Technical Guidance, Training and Public Education, and Research and Development.

LOCATION OF DEMO PROJECT

The selection of the location for demonstration project is done in the PMC meeting.
Taking into account the different set up of the Indonesian territory in term of physical, socioeconomic and water management, and the replication aspect of the demonstration project beside the counterpart project available, the criteria are established as follows :

Geography	: coastal, flat, and hilly area
Socio economy	: urban, semi urban, and rural fishery, peasantry, and mixed
Water management	: community based management, public based management
Counterpart project	: PAB IKK, Inpres Project, Local Water Interprise, The Development of Water Supply Devices, Self Reliance Project.

Based on those criteria the locations of demonstration projects after consulted with the Local Authority are determined as follows :

Within the Municipality of Cirebon

1. District : Cirebon Utara
   Kampong : Kesenden -
   coastal, urban, mixed community
   public based management, PDAM (Local Water Enterprise)

2. District : Cirebon Selatan
   Kampong : Karya mulia
   flat area, urban, mixed community,
   public based management, PDAM

Within the Regency of Cirebon

1. District : Babakan
   Village : Playangan
   coastal area, rural, fishery and labourers
   community based management, Inpres project,
   Project of Development of Water Supply
   Devices.

2. District : Astanajapura
   Village : Gumulung Tonggoh
   Hilly area, rural, peasantry,
   self reliance and Project of the Development
   of Water Supply Devices

Within the Regency of Majalaya

1. District : Cikijing
   Village : Cikijing
   Hilly area, semi urban, mixed community
   public based management, Community self
   reliance project, Project for the Development

2. District : Cikijing
   Village : Jagasari
   Hilly area, rural, peasantry
   community based management, community self
   reliance and Project for the Development of
   Water Supply Devices

Annex 3

Among the six locations of the demo project, until now only three have been able to orgunize field work for the construction of the public standposts as a result of practicing the model introduced through this demo project.
They are :

1. *GUMULUNG TONGGOH*

This village is located in a hilly area
The demo project started with a small group of families in this village living in a Kampong called Pancuran Jangkung, covering about 85 families.

The main source of income in this village is peasantry.

Prior to the demo project this kampung has a spring capping, built by the community themselves which always leakage, as they source of water supply, and during the dry season the water was scare. The water then was flowed into a pond nearby where the people used and took the water for their daily need.
Besides, some better off families individually installed prastic pipe directly from the spring capping.
So in addition to the technical problems, such as leakage, distance from water point and contamination, the soacial problems also emerged.

To solve these problems PSWS demo project offer them a possibility to organize the community for constructing a new water supply through public standpost.

Through this demo project the spring capping was renovated, and public standpost were located in four locations following the participatory model.
The phisical project costed about $ 5,000.-- where about $ 2,000. was finaced through "gotong royong" in term of building lmaterials, labours and food during the constuction.

2. JAGASARI

The village of Jagasari is also situated lin a hilly area.
The mian source of water is a spring connected by bamboo/plastic pipa without spring capping.

In rainy season although the water is there, but very dirty/muddy BEsides, the source of the water is also located quite far away from the residents and the distribution was not equal.

The community through this demo project then dicided to have a spring capping which can prevent them from muddy water and to have more public taps.

The community assisted by the community development caders organized the construction of four public standposts and the spring capping.
The construction costed about $ 7,500 where the Directorate of Water Supply of The Ministry of Public Works contributed $ 5,000. and the community contributed about $ 2,500.- in kinds.
This demo project involving about 58 families.

3. CIKIJING

This village is in the same District with Jagasari village.
In this village the demonstration project has been able to match between the people need and aspiration and the IKK project
However the role of the community is mainly determining the location of the public standpost and the construction was done by the contractor as stated in IKK document.
The project includes 360 house connection and 18 public standposts

The other three location at the moment is still under planning process and training for the caders.
Hopefully by the end of this years all locations have been able to complete the field works.

At the meantime two other locations asking assistance to replicate this demo project, they are Kalikebat in the Municipality of Cirebon Cibeureum in the Regency of Majelengka.

PUBLIC STANDPOST WATER SUPPLY IN ZAMBIA

by
D.M. Kabumu
WATER ENGINEER
Department of Water Affairs

A report prepared for presentation
to the IRC Workshop, Sri-Lanka,
December 2 - 8, 1985.

Lusaka
November 1985

1. INTRODUCTION

The provision of a continuous safe water supply and adequate sanitation is an essential factor in the economic, social, and cultrual development of a community. Zambia like many other developing countries is making efforts to provide these facilities through various agencies including I.R.C.

In order to achieve the required goals, several factors have been considered in choosing areas of study in Zambia and these include:

- Choosing low cost technology which the people would find easy to adopt.
- Increasing the subsidy on materials and assisting in delivery of materials.
- Continuous motivation and education of those who are relactant to use and adopt the programme quickly.
- Explaining the advantages of the options provided especially in sanitation in order to establish a two-way communicaiton.
- Involvement of the people in contributing funds for operation and maintenance costs

From the initial stage of the project, it has been realised that the people are indeed interested in the programme. The community selected for the initial phase have been responsive and willing to cooperate. The selected areas were found to be representative of the communities which the programme is to encounter in the later phases of the project.

The rate of development though started slowly, have begun to pick up well as sufficient confidence in project staff generated.

2. OBJECTIVES OF THE PSWS PROJECT IN ZAMBIA

The objectives of the PSWS project are:

(i) To provide clean and safe tap water to all sections of the population in both rural and peri-urban areas that are close to existing water supplies.

(ii) Involvement of the community and community leaders in planning, designing, construction, operation and maintenance of PSWS project.

(iii) To provide stand posts within 100m reach.

(iv) Preparation of manuals and guidelines on operation and maintenance of standposts.

3. LOCATION

The local standpost demonstration sites have been located in three areas namely: Mwachisompola, Chibombo and Chongwe.

4. PLANNED ACTIVITIES

Each institution or as a group have been assigned to provide their specialised knowledge and advice to the communities involved as follows:

(i) Development and consolidation of the local demonstration schemes especially:

- Consultations (individuals and groups)
- Local water committe
- Arrangements for operation and maintenance
- Financial management system
- Caretakers selection and training
- Community hygiene education
- Self help construction and materials donation will be carried out by project staff and all project and programme information systems (PPIS) especially the Department of Social Development and Ministry of Health.

(ii) Further development and testing of a community hygiene education programme bases largely on dialogue and discussion, as well as monitoring and reporting on the progress is to be carried out by the Health Education Unit of the Ministry of Health and University of Zambia's Department of Community Health.

(iii) Organisation of training course/workshop for extension workers from the demonstration schemes is to be taken care of by the Department of Water Affairs and University of Zambia.

(iv) Development of a simple, illustrated operation and maintenance pamphlet (in appropriate languages) for local caretakers has been given to Civil Engineering Department of Technology Development Advisory Unit (TDAU) of School of Engineering, University of Zambia.

(v) Development of guideline on community based approaches to standpost water supplies in Zambia to sum up project experiences and recommendations is to be done by all PPIS.

(vi) Development of a study into sturdy anti-waste taps so as to recommend on future action is to be undertaken by UNZA (Civil Engineering, Mechanical Engineering and Technology Development Advisory Unit).

5. PSWS PROJECT MANAGEMENT COMMITTEE

Several institutions have been involved in the implementation of the project and their representative form up the project management committee. To emphasise the importance of the project to the government, the committee comprises of the following people

Mr. C.R.W. Kayombo	-	- Chairman Director of Water Affairs
Dr. I.L. Nyumbu		- IDWSSD Adviser Department of Water Affairs
Dr.		

Dr. T. Watts	- Head Department of Community Health (School of Medicine, UNZA)
Mr. T. Tembo	- Tutor Chainama College of Health Sciences
Mr. K.L. Kamalata	- Principal Social Development Officer (Project supporting Officer) Department of Social Development
Mr. F.K. Mambwe	- Chief Health Inspector Ministry of Health
Mr. M.K. Chimuka	- Project Manager Ministry of Health
Mr. M.D. Patel	- World Bank Project Coordination Department of Water Affairs
Mr. D.M. Kabumu	- Project Engineer Water Affairs Department
Dr. K. Jayaraman	- Head Department of Civil Engineering, UNZA
Mr. F.B.M. Shibalatani	- Assistant Project Director Health Demo Zone
Dr. P. Nkanza	- Head TDAU - School of Engineering, UNZA

6. PROGRESS REPORT

(a) Pilot Phase

The "pilot" or"lesson" - learning phase included three areas:

(i) Mwachisompola Demonstration Zone/Bolingo is a Health Demonstration Centre and the standpost connected to the centers water system serves the village near by mainly composed of general workers to the centre and their families. The whole idea is for those attending clinic to see, learn and visit the facilities including VIPs.

(ii) Chibombo/Messengers Compound, serves mostly workers to the district council living on the outskirts of the township, close to many surrounding villages and acts also as an example for the other villages further away.

(iii) Chibombo Primary School/Kaongo Village - The Chibombo Primary School which was found to be a centre and focal point for villagers around the school and acted as a demonstration zone for the area. The standpost and VIP were erected with the help of the district health staff, and villagers. The consumption and population estimates are given below.

Chibombo School

Estimated users over 300 people
capacity required 600 lcd

service pipe Ø 3/4"

length of service pipe 18 metres
no. of taps 2 3/4" taps

Kaongo Village

The standpost is proposed to be sited some 150m from the School

30 households at 10 person/household
total population 300 inhabitants
design population 403 inhabitants
service pipe Ø 3/4"

length of service pipe 150
no. of 3/4" pipe 25

It is therefore important (Glennie C 1982) to stress the suitability and receptivity of the chosen community for an initial project if awareness and expansion programme to other areas is to be achieved effectively.

As Glennie C stresses on the simplicity of the project, the initial phase projects involved connecting the new supplies to existing systems to enable the people to see the results of their labour within a relatively short time. In all the projects involved in the first phase, the communities concerned initially contributed in the form of labour such as excavation of trenches, distribution of pipes, back filling, collection of materials made of bricks, preparation of aprens, drains and soakaway pits as well as excavation of latrine pits and superstructures in case of VIPs.

Later when projects were completed, the communities contributed cash towards minor construction and maintenance costs.

(b) Demonstration Phase

The "demonstration" phase which involves applying lessions learnt from phase I has shown that people are interested even to contribute materials which are locally available to the project. These may include bricks, sand, stones, and even pipes from local farmers.

Five areas have been chosen for this phase and are under implementation. Just as in phase one, phase two projects are extensions of the existing supply systems, to the nearby, extensions of the existing supply systems, to the nearby villages. These include:

- Chibombo/Chiyuni village
- Chibombo/Mwamulimba
- Chongwe/Sokosi
- Chongwe/Kakubo
- Chongwe/Shelani

(i) Chiyuni Village

The standpost site is near the headman Chiyuni
52 house holds at 8 persons/household
total population 416 inhabitants
design population 559 inhabitants
capacity required 11 180 lcd
service pipe Ø 1"
required discharge per standpost 5590 lcd
length of service pipe 390 metres
number of 6m galvanised iron pipes 65
No. of laps, 4½" taps

(ii) Mwamulimba Village - still under consideration.

(iii) Chongwe/Sokosi Village

Preliminary design and (Sokosi Village)
bill of quantities

estimated population 550 inhabitants
capacity required 11000 lcd
service pipe diametre 1"
length of service pipe 420m
no. of 6m galvanised iron pipes 70 pipes
no. of taps 4½" taps

(iv) Chongwe/Kakubo - still to be investingated

(v) Chongwe/Sheleni - still to be investigated.

(c) Rehabilitation Project

Phase 3 involves rehabilitation of an old system at Mwachisompola Rural Health Centre. In this case it has been seen that provision of organisational structure by the community in order to manage community activities and contributions is very vital. The community elected committee to organise the labour roster, cash and material collection and selection of individual for special pump house, manufacturing bricks, digging trancher and providing sand, stones and cement. On the other hand materials that can not be found locally such as pipes and fittings are being purchased from project funds. On completion of renovations, the district council will provide a tank and engine and the community through contribution being made will operate and maintain the system under close supervision of the department.

7. CONSTRAINTS

There are a number of problems which exist causing slow progress to the project

(a) Illiteracy in some communities especially on sanitation as well as lack of comparable policy on sanitation.

(b) Little financial assistance from central government for both capital development and recurrent expenses.

(c) Lack of availability of materials especially pipe fittings in shops as well as high pricing.

(d) Lack of manpower, technical and socio-economic data on which to base planning.

8. CONCLUSION

If the PSWS project is to succeed, community participation should be emphasised through dialogue, formal contacts and primary health care education. Generation of revolving funds is to be a prime target in order to facilitate smooth operation and maintenance than relying on central government.

The PSWS project in Zambia has been appreciated since it will help eliviate water problems in terms of:

(a) distance and time involved in fetching contaminated water.

(b) providing safe water and proper sanitation hence reducing waterborne deseases.

(c) teaching the people on the need for self reliance and initiative on various projects.

/tmk.

MINISTRY OF WORKS AND SUPPLIES

WATER DEPARTMENT

PUBLIC STANDPOST WATER SUPPLIES (PSWS) PROJECT

MALAWI

PROJECT PROGRESS REPORT

January 1986

PUBLIC STANDPOST WATER SUPPLY (PSWS) PROJECT

PROGRESS REPORT

CONTENTS

PUBLIC STANDPOST WATER SUPPLY (PSWS) PROJECT

PROGRESS REPORT

1. INTRODUCTION

The Public Standpost Water Supplies Project is one of a series of integrated demonstration projects in which the International Reference Centre (IRC) is working in close co-operation with a number of developing countries (Malawi, Zambia, Sri-Lanka and Indonesia).

The project aims to develop and promote improved approaches to public standpost systems through demonstration projects and studies and also by the publication of guidelines and the results of field experience.

The general objective of the project is to develop appropriate strategies, methods and techniques for the planning, implementation and management of community water supply systems. The methodology of the programme allows for active participation by the population in all stages of the local projects and is directed to repetetive application of generated knowledge.

(ii) The Urban Communal Water Point Project

In December 1981, Malawi started the UNCDF/UNDP/WHO assisted Domestic Water Supply Project commonly referred as the Urban Communal Water Supply Project.

The project objective was to supply safe water to fringe urban dwellers within reasonable distance of most houses, through the construction of community water points in some 50 urban centres.

A separate agreement was signed in 1983 between Malawi and the IRC for the participation of Malawi in an International Demonstration Project on Public Standpost Water Supply Systems.

During the discussions relating to the IRC Project in Malawi, the existence of the Urban Communal Water Point Project was recognised as an asset for the success of the proposed IRC Demonstration Project.

It was therefore decided that the new project activities should be integrated within the existing ones in order to avoid duplication in method of implementation.

2. THE PSWS PROJECT: OBJECTIVES AND ACTIVITIES IN MALAWI

The objectives of the PSWS Project are:-

- To develop six demonstration projects within the Communal Water Point Project Centres on the application of Public Standposts in Community Water Supply.

- To conduct a series of studies and to prepare guidelines on particular organisational, economic technological and socio-cultural aspects of public standpost water supply.

- To contribute to the international exchange of information.

- To promote the application of the strategies, methods and techniques developed, on a larger scale.

3. PSWS DEMONSTRATION SITES

Four sites were selected within the Central Region which reflect diverse socio-cultural backgrounds. The sites were selected on the basis of representing standposts in the early completed stage and older stages. Selection of two other sites to represent standposts in the pre-planning stage has been delayed in order to indentify appropriate sources of funds since this would entail the construction of new standposts in some new areas within the communal water point centres.

The sites selected are Dowa/Mponela and Salima-representing the older stages since they have been operating for more than two years and Kasungu and Likuni-representing the early completed stage, for having been in operation less than one year.

A full picture of standposts at all stages will emerge when the rest of the two new sites are established and studied. Having completed the selection process, Project Assistants were stationed in the Centres after a three week orientation programme at Headquarters.

Initial PSWS Project activities in the centres included Introduction of Project Assistants to the Central Water Councils and Tap Committees and their familiarisation with the operation of these bodies. This was essential mainly because the next activities entailed introducing changes not only in the operation of the standposts, but also in behaviours of the communities. This necessitated the development of rapport between the Project Assistants and the Communities.

After this, monitoring activities commenced. The Project Assistants started recording successes and problem areas or potential future problem areas in the operation of the schemes.

They were also studying various aspects, including the degree of functioning, utilisation and benefit of completed schemes.

4. PROMOTION OF COMMUNITY BASED APPROACHES

Generally this was geared at enhancing user acceptability and sense of responsibility which appeared to be waning - these factors are conducive to proper operation and maintenance of the completed schemes.

Communities were being encouraged to take active part in Tap Committee activities and whenever there were problems at the water points, the communities were being encouraged to solve them through the Tap Committees.

If problems could not be tackled at the Tap Committee level they should be referred to the Central Water Council whose Chairman is the District Commissioner. The communities are being discouraged to refer their non-technical problems to the Plant Operators.

The idea was that the communities should not be over dependent, as is the case at present, on Plant Operators. They should as much as possible be operating independently, tackling their problems through Tap Committees and Central Water Councils. They should only refer to Plant Operators whenever they experience technical problems.

The Project Assistants have strict instructions not to try to impose solutions to problems at the Tap Committees. The best that could be done is to suggest how other committees have tackled similar problems and encourage them to discuss the issue and come up with group decisions.

Plant Operators are also being encouraged to adopt this method, to promote community participation in the Water Points. Project Assistants have also been observing communities in their everyday life including water carrying tasks and water re-use practices, indirect observation of personal hygiene and latrine use habits.

SURVEY

Initial surveys have also been conducted to supplement other essential data collected at the Communal Water Points and within the communities.

5. USE OF DATA AND OUTPUT

Since the objective of the PSWS Project is to identify problems and test alternative solutions, data collected has been compiled into preliminary reports which are presented to the Water Authority for approval.

If recommendations will be accepted, the project will go ahead to refine the methods and again test alternative solutions.

The data will also be of great importance to anyone within the Department or from outside.

Expected output from this project are therefore:-

(i) Developing Improved methods and techniques for the planning, implementation and management of Communal Water Supply Systems. These will be presented in an Interim and Final Reports.

(ii) Production of a series of manuals and guidelines on subjects such as:

- Operation and Maintenance, Administration and Financial Management, Institutional and Organisational aspects, design and Construction, Hygiene Education, Community participation, Local manufacture of parts and equipment and manpower planning and training as related to Public Standpost Water Supplies.

The project will also develop proposals for follow up activities and is expected to promote the transfer and application of generated knowledge both locally and internationally.

6. HYGIENE EDUCATION AND SANITATION

The project, in collaboration with the Ministry of Health will also plan, design and implement a Hygiene Education and Sanitation Programme. The idea is that health benefits of an improved water supply are most unlikely to be attained to any significant degree unless there are also changes in health related behaviour, starting with the way the water is handled after leaving the tap and extending to all aspects of personal hygiene and sanitation.

7. INTER-MINISTERIAL COLLABORATION

While the Water Department is the Project Management Institution, the Ministry of Health and Ministry of Community Services are collaborating in the implementation of the project.

All arrangements have already been finalised through a series of top level meetings, for the commencement of inputs from the two Ministries.

Inputs from the Ministry of Health will be in the designing and implementing of the hygiene education and sanitation programme. This will have to commence now that all the necessary data have been compiled.

The Ministry of Community Services will assist in community education activities and the promotion of community based approaches. Again this should be commencing now.

8. PROJECT PROGRESS

Working on a programme and Work Plan, the project has so far covered a wide ground and in time. Apart from the preparation of both the Work Plan itself and programme, the first meeting of the Project Working Group was held; sites were selected; Project Assistants were recruited briefed and guided and bicycles for the Project Assistants were purchased. With the Project Assistants fully settled in the centres, a vast wealth of data has already been accumulated; and generally the inpact of the project in the centres has been manifested in some improvements which are beginning to show in the finances of the Communal Water Points, and their management. The Central Water Councils have already been activated and should become fully operational anytime now.

Problem Tap Committees have been moderated and on an experimental basis some new committees were elected and are already operating impressively.

Plant Operators' approaches to problems in the Communal Water Points have been refined to ensure that eventually the Tap Committees should operate without depending on Plant Operators.

A series of meetings were held with Senior Officials from the Ministry of Health and Ministry of Community Services to finalise collaboration arrangements.

Surveys have also been conducted using pretested questionnaire.

Preliminary field reports which include recommendations on action to be done at each centre have also been prepared based both on the survey and participatory observation activities undertaken by the Project Assistants.

9. PROBLEMS

Mainly because of the full support of the Senior Water Department Officials, administrative problems have been minimal so far.

The only major problem arises in the implementation of the project generally. Considering the fact that the communal water point project was established under a separate programme, our approach has been of caution.

It has been like experimenting on borrowed equipment and materials. Before tackling any CWP issue, we had to study the original planners idea and in certain cases there is very little that we can do but to leave things as they are.

This however falls a little bit short of the PSWS Project demands - to study each case and refine the approaches.

A good example is the question of maintenance which according to the Communal Water Point Project, should be done by the Water Department. However, the PSWS Projects recommends that communities should at least be trained in carrying out minor repairs including preventive maintenance of the water points. There is nothing that we can do as it would be against the policy of the Urban Communal Water Point Project.

10. FAVOURABLE FACTORS

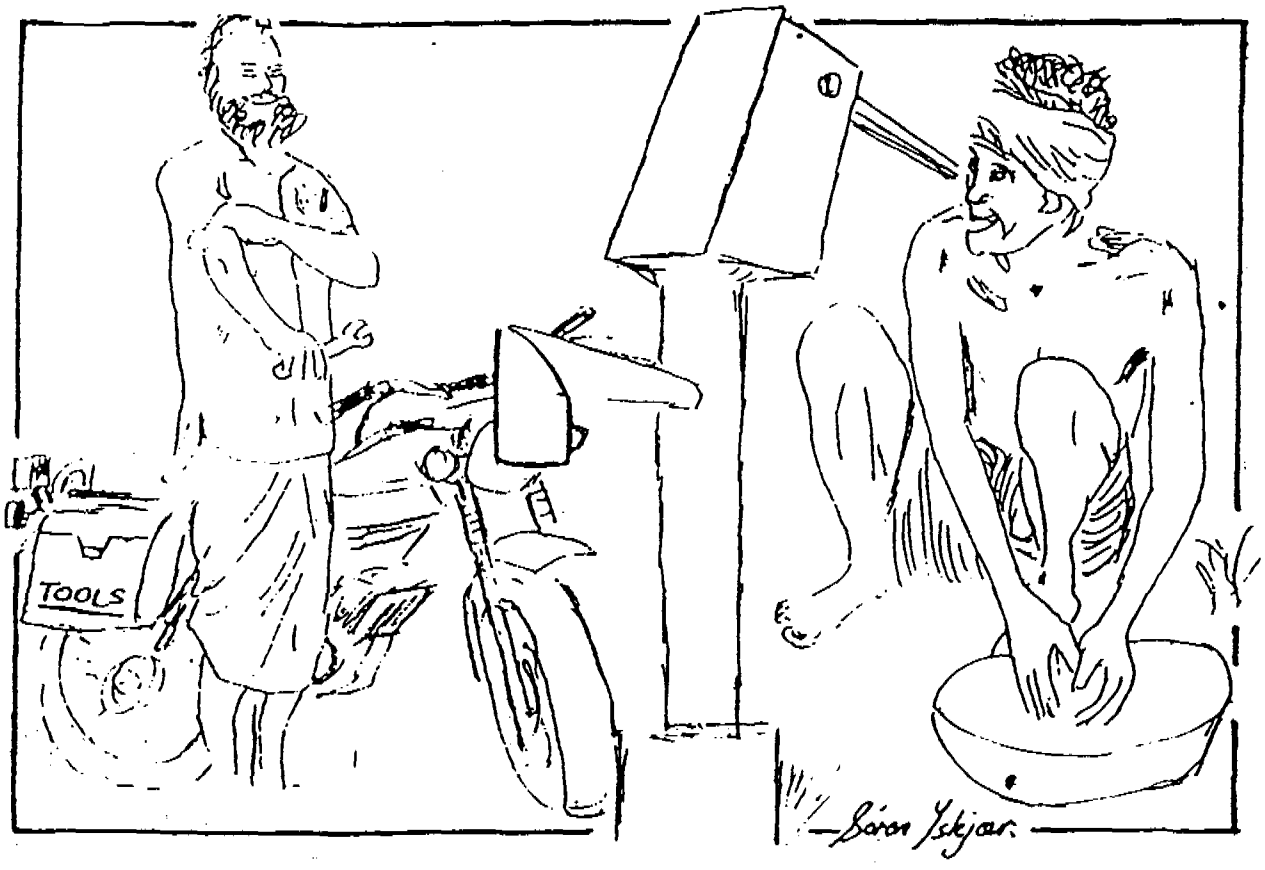
Among the favourable factors in the implementation of the project has been the co-operation of staff both in the Water Department, Ministry of Health and Ministry of Community Services.

Again the back-up which the IRC is rendering has greatly helped in the implementation of the project in Malawi.

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

DANISH INTERNATIONAL DEVELOPMENT AGENCY

IMPLEMENTATION OF RURAL WATER SUPPLY AND SANITATION PROGRAMME IN MATALE AND POLONNARUWA DISTRICTS



KAMPSAX-KRUGER, KANDY

CLIENT: National Water Supply & Drainage Board/Danish International Development Agency.

CONSULTANT: Kampsax-Kruger, Copenhagen, Denmark.

1: BACKGROUND

The rural water supply and sanitation programme in Matale and Polonnaruwa districts in Sri Lanka (see Fig. 1) which is financed by DANIDA, (Danish International Development Agency) started in 1981 with a Planning Phase. During this Phase, some 1,300 villages in the area were visited by teams who for each village made an assessment of the needs and the solution which would be appropriate for the village in terms of improving water supply and sanitation.

Based on this village inventory, where needs were weighed and cost estimates made, a priority list, based on need/costs, was worked out.

This list was the basis for the deliberations of the Governments of Denmark and Sri Lanka and the Executing Agencies when determing the total number of villages (300) which could receive assistance under this programme, given the limited funds available.

The allocation of funds, signatures on Contracts, Government Agreements etc., were ready by mid 1983, and the implementation of the programme started immediately afterwards in 1983.

The Implementation Organisation, National Water Supply & Drainage Board and Kampsax-Kruger faced the task of planning and executing a programme involving more than 1,000 Boreholes for Handpumps and approximately 24,000 latrines in 300 villages.

The organisational aspects of accomplishing this task before the expiry of the Project by 30th April, 1987 is discussed below.

A flow chart - fig. 2 shows the inter-relationship and the time involved for a typical village between the sections.

3:0 SOCIAL AND CULTURAL ASPECTS OF BUILDING TOILETS

The Sanitation Programme has the following main characteristics:

- **Strong material incentive is offered - cash in hand.**
- **Limited resources available and selection criteria of villages and families create a competitive atmosphere around the programme which increases motivation and encourages participation.**
- **Family status and prestige is given to having a toilet, this is as a strong, if not stronger motivating factor than direct health benefits to most villagers because having a toilet is associated by villagers with material and social development and progress.**
- Maximum use is made of local technical knowledge and resources.
- The Project Team functions as a "watchdog" against discrimination, bias in the distribution of plates and other malpractices.
- Volunteer Health Workers (VHW's) from the village who are loyal to the Project Principles and Goals play a key role in the "Village" administration of the sanitation programme, and in progress reporting and monitoring. The VHW is also a valuable "informant" regarding any malpractices occuring in his/her village.
- The VHW is also the principal Data Collector regarding the functioning and use of the toilets after completion.

Problems Encountered

The programme has not been without its problems and "mistakes". Among some of the most important are:

- There is a strong "over response" to the programme, putting the Project in a defensive position with regard to potential beneficiaries and producing some resentment among those being "left out" of the programme.
- Lapse of time between delivery of Squatting Plates in the Village and distribution has already resulted in added pressure on the health worker to distribute plates before having a meeting with the recipients to explain the conditions of the programme.
- Because of the immediate administrative demands of the programme, there has been a shortage of time for conducting independent monitoring and evaluation of the programme. Because of heavy work load of professional staff at the Project Office, as much as possible of the "field work" involved in monitoring and evaluation will be done by the Volunteer Health Worker , who is a full-time resident of the village.

Contd/-2

- Caution should be exercised in attempting to replicate the programme in other organisational/cultural settings, since the programme, being part of a foreign-funded and administered project is "high-resource" and money and organisationally intense, advantages which other programmes/projects may not enjoy.

4:0 SANITATION PROGRAMME

4:1 General Approach

The principles related to technical matters which have been adopted for this part of the programme are:

A: All households without sanitation facilities should be offered a latrine from the project.

B: The Sanitation Programme should not be introduced in a village before adequate water supply is available.

C: The design should be kept so simple that the ordinary villagers can construct the latrines themselves.

D: Locally available materials should be used where possible. Where prefabricated items are used they should be produced within the project area to generate income for the target group.

4:2 Overall Planning

Before establishing a water supply (normally a handpump) the Sociological Unit will collect applications from eligible villagers. These applications are collected by Voluntary Health Workers (VHW) as described in Section 3. After the Sociologists have processed the application a request is made to the technical section for the number of Squatting Plates to be delivered in the village and where these plates shall be delivered.

4:3 Delivery Schedule

In order to ensure early delivery, a delivery plan is made, based on the requests received. This plan also serves to minimize transport costs. The suppliers of Squatting Plates receive their delivery schedule at the end of each month. To facilitate the suppliers long term planning they have each received a standing order of the number of plates they are expected to supply each month.

Contd/-3

4:4 Distribution

After delivery to a village has taken place the VHW arranges for the successful applicants to collect their Squatting Plates. For easy transport the plates are octogonal so that they can be rolled (See Fig. 7).

4:5 Construction of Latrines

A very simple type of water sealed pit latrine (See Fig. 8) is being promoted. This enables the unsophisticated villager to construct their own latrine without being assisted. Where villagers express the wish to construct a more sophisticated latrine such as VIP or off-set latrines, the technical advice and guidance is given by the Implementation Organisation.

4:6 Subsidies

The target group belongs to the poorest part of the population. It is therefore necessary to give a cash subsidy covering the cost of materials.

This subsidy amounts to Rs. 500/= (20 US$) and is paid in two installments. The first installment Rs. 200/= (8 US$) is paid when the pit has been dug and the Squatting Plate has been placed. The second installment Rs. 300/= (12 US$) is paid when the superstructure is completed. The total average cost of each latrine is approx. Rs. 750/= (30 US$) including transport but excluding extra lining in low lying areas.

4:7 Technical Advice

Quality control of the Squatting Plates is carried out by the Technical Assistants who also ensure that the correct number has been delivered. They advice the villagers on technical matters and supervise their work, making sure that the specifications are met. They also certify the completion of each step of the construction.

Each Technical Assistant is responsible for the supervising of approximately 15 villages.

4:8 Payment Of Subsidies

At agreed intervals each village is visited by a Payment Team. Apart from payments the team is responsible for carrying out sample checks as a control for the certificates issued by the Technical Assistant.

All payments are made in the presence of a Village Official who certifies the identity of each recipient.

Contd/-4

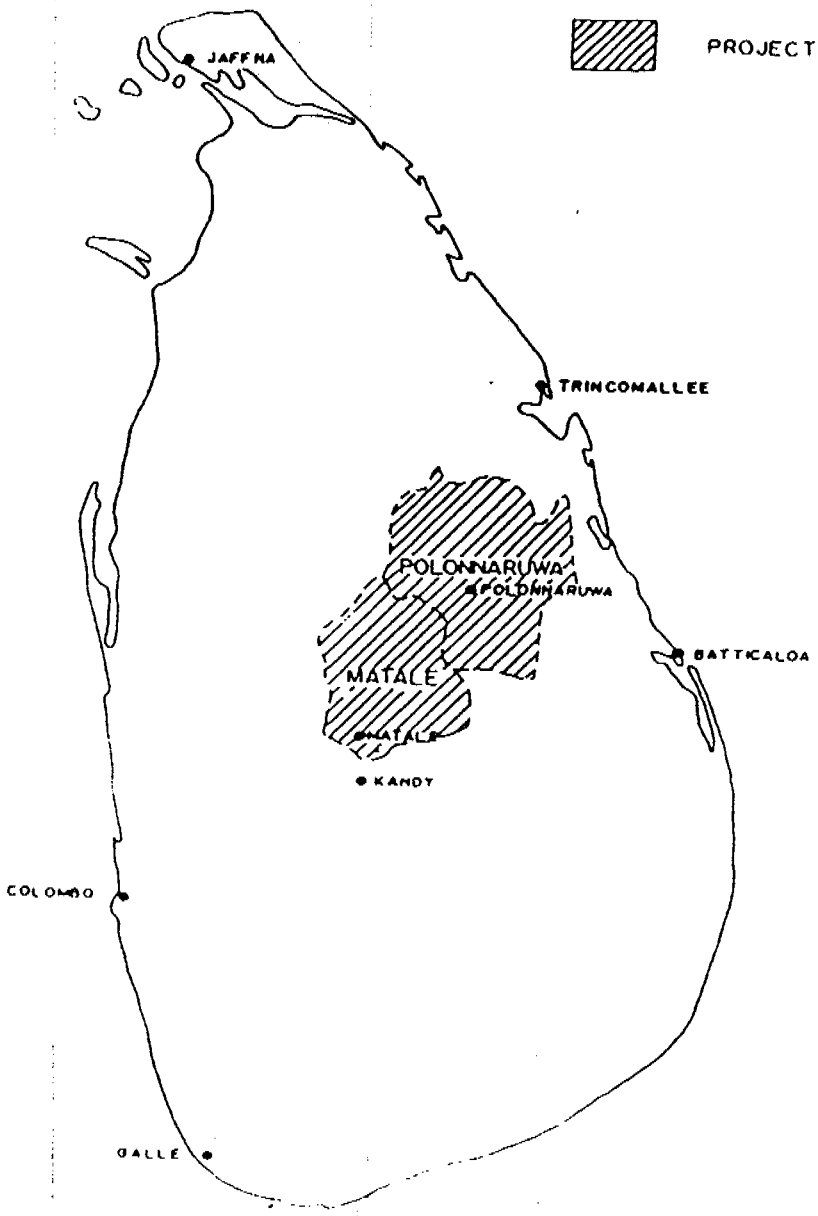
Depending on the size of the villages and the distance of travelling it is our experience that each payment team can make approximately 1,000 payments per month, corresponding to a completion rate of approx. 500 latrines monthly.

4:9 Achievements So Far

Using a total staff of less than 15 full time employed, an average of 1,000 completed latrines per month has been achieved with a maximum of 1,500 latrines in one month.

Close co-operation between the technical and sociological staff and a high degree of community participation and motivation is essential for success. The Implementation Organisation is expecting to complete 24,000 latrines in approx. 2 years.

FIGURE 1



MAP OF SRI LANKA

SCALE 1 2,500,000 Approx

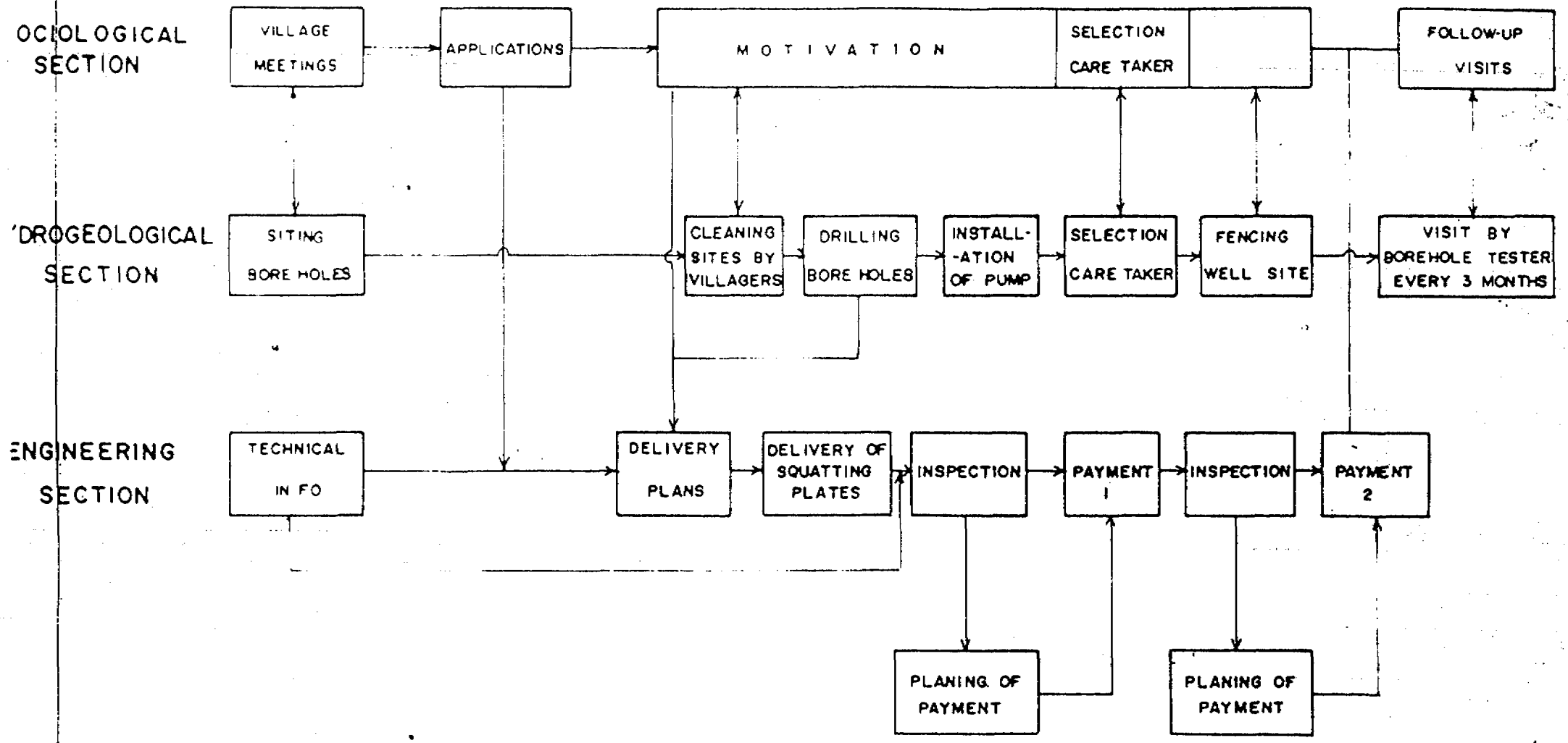
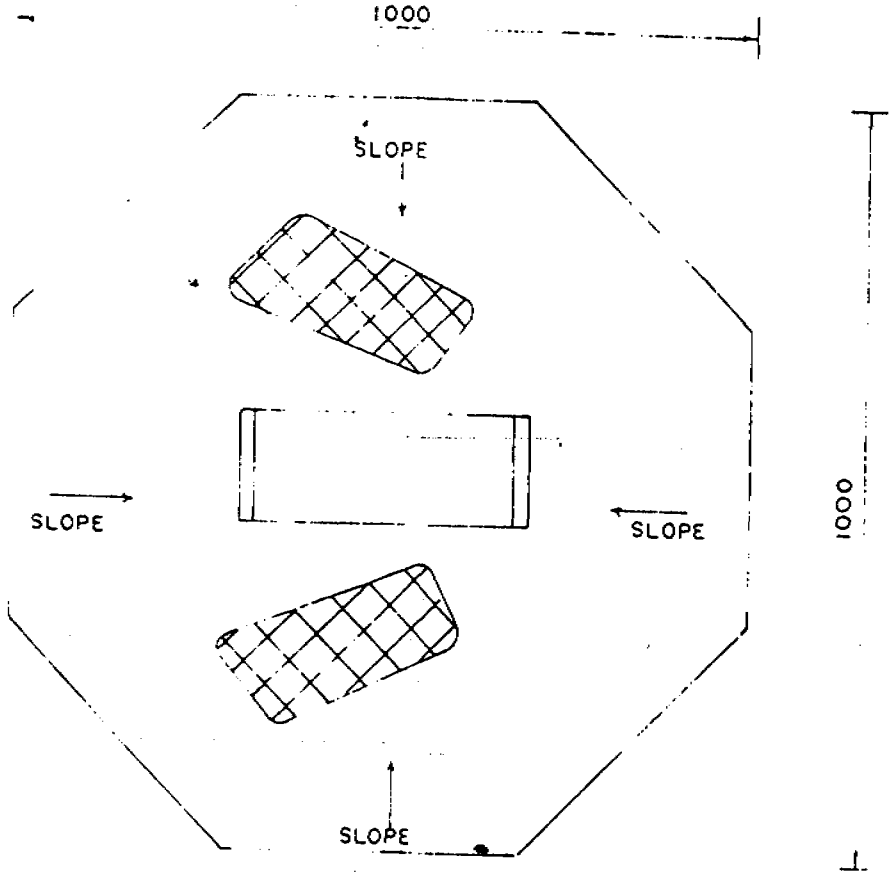


FIGURE 2

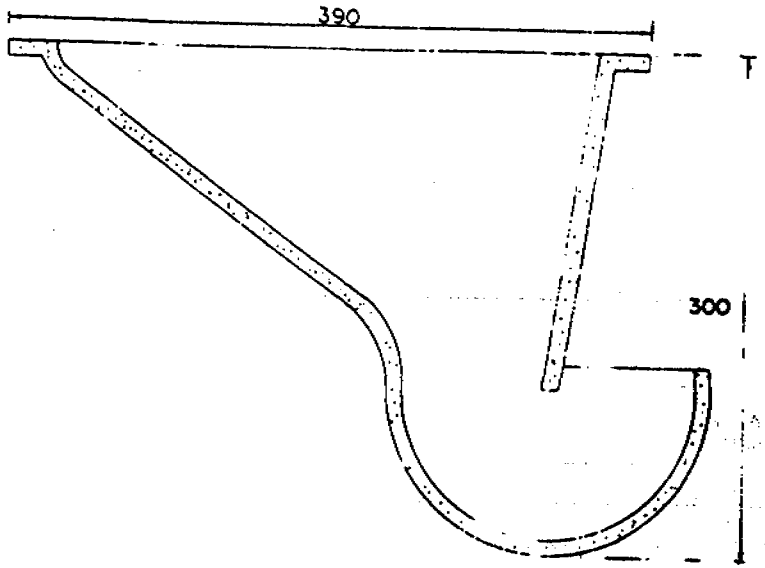
WATER SUPPLY AND SANITATION PROGRAMME

FLOW CHART SHOWING ACTIVITIES FOR A VILLAGE



SQUATTING PLATE

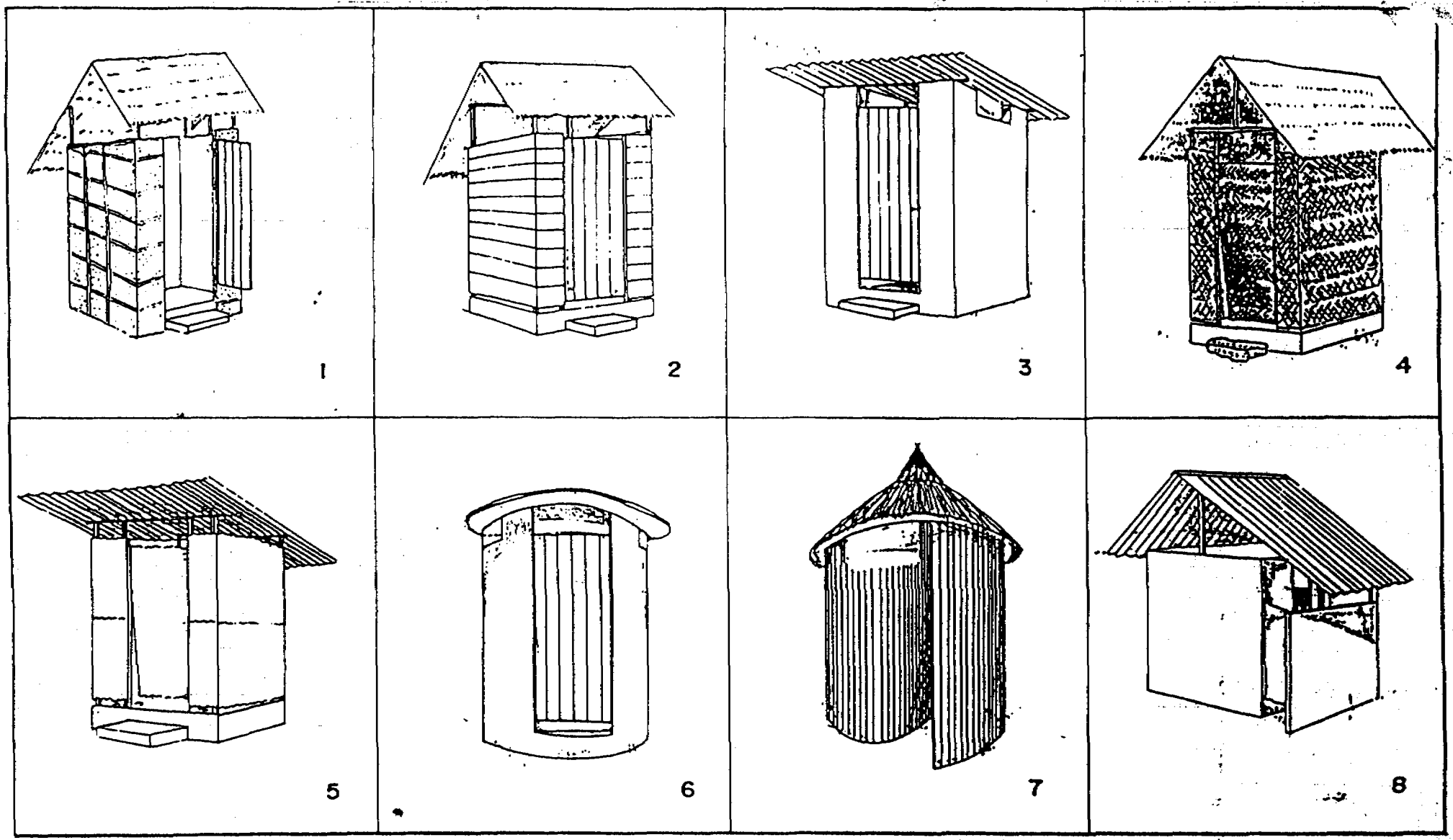
SCALE - 1:10



WATER SEAL TRAP

SCALE :- 1 : 5 (Approx)

FIGURE 7



EXAMPLES OF RECOMMENDED SUPERSTRUCTURES FOR VILLAGE SANITATION

FIGURE 8

QUALITY OF LATRINES

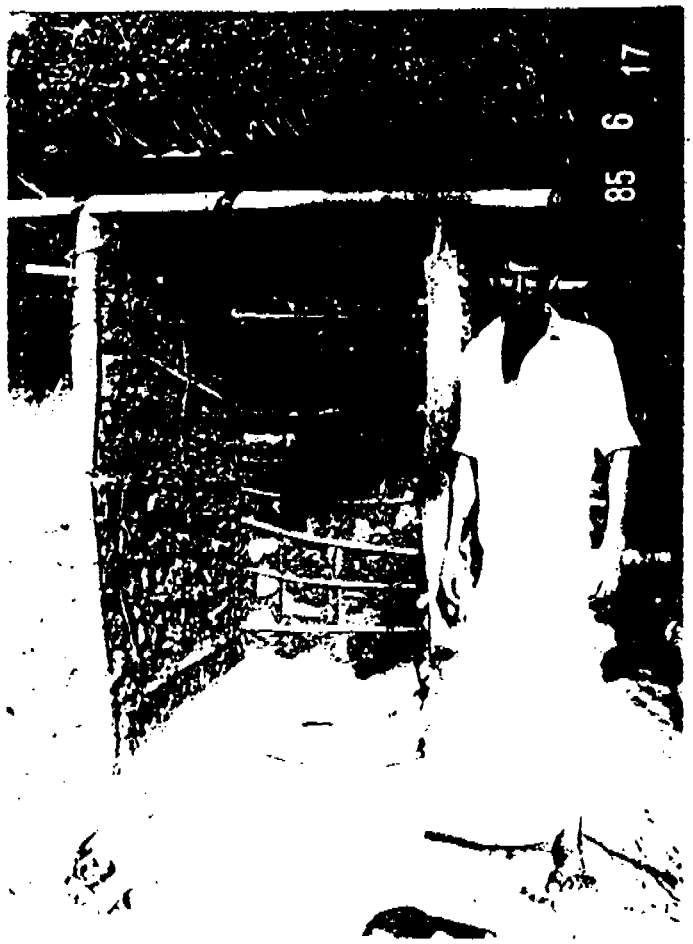


Fig. 1 Quality of village latrines varies from "poor" ... (but functional)

(This type is found mainly among the first 1500 latrines, constructed. Presently it is rarely seen, and thus represents one extreme, the other being the one shown on Fig. 4)

Fig. 2 ..... through "fair"

Fig. 3 ... and "good"

(typical).

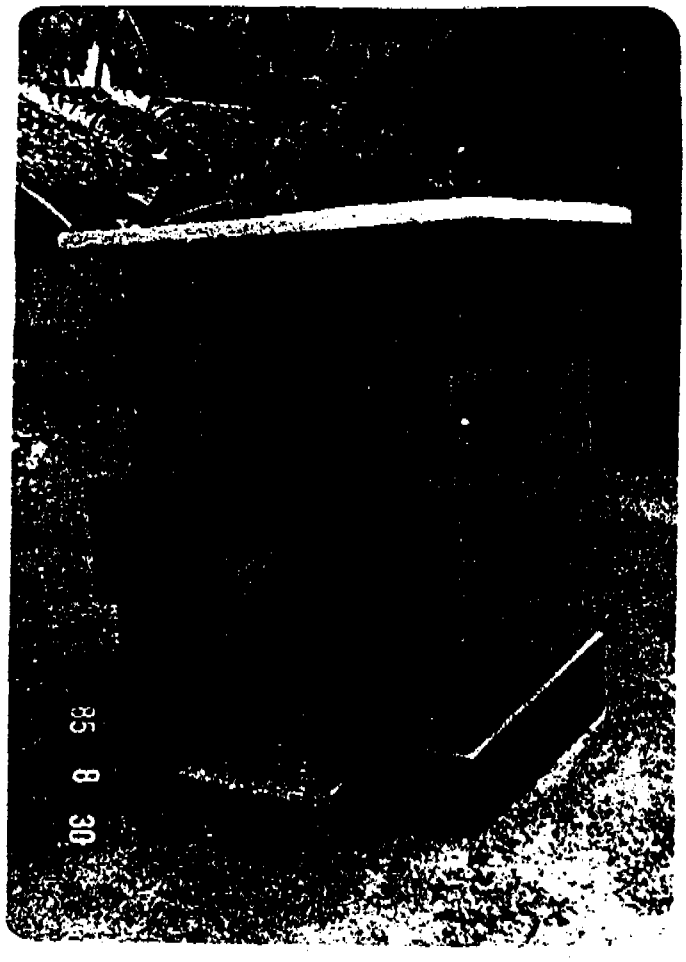


Fig. 4 .... to "exceptional"

.... In all cases, the subsidy is Rs. 750, incl. Rs. 250 for the squatting plate.

This subsidy in cases shown on figs. 2 and 3 hardly covers cost of materials.

The cost of the toilet shown on Fig. 4 probably exceeds Rs. 3000, whereas in the case shown on Fig. 1 the subsidy harly covers workmanship and materials. (See also 1.04)

Plancenter Ltd. Kandy, 29.11.1985/KR

Harispattuwa Water Supply and Sanitation Project

1. General

Finland and Sri Lanka signed an Agreement on the terms and procedures in the field of development co-operation between the two countries in December, 1979. The main areas of co-operation are as follows:

(i) rural water supply and sanitation
(ii) forestry and forest industries
(iii) telecommunications
(iv) health

Within the framework of the Finland - Sri Lanka development co-operation agreement the Harispattuwa Water Supply and Sanitation Project was commenced by the Finnish Consulting firm, Suunnittelukeskus Oy - Plancenter Ltd. in August, 1980. The activities were commenced by carrying out a Feasibility Study on a Water Supply Project for the Harispattuwa Electorate. Thereafter, a Water Resources Potential Study for the whole Kandy District (during 1981 - 82) and Revised Study for Harispattuwa (during 1982 - 83) were prepared by Plancenter Ltd. The implementation of the Harispattuwa Water Supply and Sanitation Project was commenced in 1983. At first the main activities were ground water investigations, different studies and designing. During 1984 the emphasis of the Project was changed to implementation of piped systems, hand pump wells, latrines and health education programme. The construction work will be completed in 1986.

At the moment eleven Finnish expatriates and about 350 Sri Lankans are employed by the Project. Furthermore, several persons are working on a voluntary basis in different activities of the Project.

The total project costs during 1981 - 86 will be about Rs. 300 million (FIM 70 million) of which about 85% is granted from Finland, rest being local component.

2. Project area

The project area comprises of the entire Harispattuwa Electorate in Kandy District and following gramasevaka divisions in Tumpane AGA division; Niyangoda, Kumburegama, Kandanhena and Marawanagoda. The project area is about 142 km^2 and the total population figure is approximately 144,100 (census 1981). The population density is about 1020 people/km^2 and it is far above the average in Sri Lanka (about 230).

The area belongs to the Wet Zone, annual precipitation varies from 1000 to 3000 mm, 2000 in average.

The traditional water supply of the area is based on public and private uncovered wells lines with brick masonry, and on springs and streams. Some small gravity schemes exist, but most of them need rehabilitation.

3. Project objectives

The United Nations has declared the present decade to be International Drinking Water Supply and Sanitation Decade. The Government of Sri Lanka has prepared and approved a plan for the Decade. The main goals of the plan are:

(i) To improve the quality and quantity of drinking water and to make supplies accessible to the entire population.

(ii) To improve the quality and quantity of excreta disposal facilities and to make these facilities accessible to the entire population.

(iii) To establish a strong linkage between drinking water supplies and excreta disposal facilities through health education and community participation.

4. Project components

To achieve the above mentioned main goals in Harispattuwa Electorate the Harispattuwa Water Supply and Sanitation Project comprises the following components:

(i) Provision for about 1,000 community hand dug and deep wells with hand pumps which would serve about 90,000 people by 1985, in predominantly rural areas with low housing densities. Springs where water can be drawn by gravity should be improved.

(ii) Provision for eleven piped systems supplying a population of about 65,000 by 1986, constructed in areas with high housing densities. These systems will be supplied from ground water sources.

(iii) Improvement of sanitation conditions through health education and provision of about 5,000 new latrines in 1985. The target group selected for improvement would include, besides private premises, schools, health centres and public buildings where appropriate. Most likely the sanitation programme will be extended to cover provision of about 11,000 additional latrines in 1987.

(iv) Maintenance of the hand pumps and water supply systems before handing over to DDC and NWS&DB.

(v) Strengthening of operation and maintenance capacities of the operating entiry (NWS&DB's Regional Office) through provision of vehicles, workshop facilities, tools, and spare parts, quarters for operating staff and training for operating technical and financial staff in 1985 - 86.

(vi) Provision for the regional water laboratory in 1986.

(vii) Managerial and administrative studies which would provide an analysis of required managerial capacity including financial operations of NWS&DB's Regional Office, for

operation and maintenance of facilities proposed by the project.

(viii) Engineering services needed for studies, designs and implementation of the project.

4.1 Hand dug wells

From the programmed 1,000 hand pump wells about 780 will be hand dug.

Methodology The procedure of the siting and construction of a hand dug well in briefly:

- the AGA receives a request for a well from villagers, gramodaya offices, school teachers, priests etc.
- the AGA as a member of the Project Co-ordinating Committee forwards the request to the project
- the site investigation group of the project investigates the technical suitability of the site.
- the technical suitability is checked by the NWS&DB project office.
- the public relation office of the MP gives comments on the site.
- the Co-ordinating Committee approves the site for construction.
- before the construction the deed is obtained from the land owner.

The construction work of hand dug wells is done either by the project or by the local contractor. If the well is constructed by the project the work is given to Gramodaya Mandalaya as a contract and the project provides supervision, tools and materials needed. If the well is constructed by a local contractor it is made by following the prepared Bill of Quantities and agreed unit prices.

When the well is constructed the pump installation group cleans and desinfects the well and installs a hand pump.

About 270 of the total number of hand pump wells will be borehole wells. When they are originally drilled to be hand pump wells the procedure is mainly the same as with hand dug wells. Apart of borehole wells have been drilled for investigation purposes. If the yield is enough and the borehole suitably situated, it has been taken in hand pump use if the AGA has so recommended.

Iron Removal

Iron removal plants are installed to wells where iron content in water is found continuously to be too high. About 60 iron removal plants have been constructed so far.

Training

For each hand pump well a well caretaker is trained. The caretaker is a volunteer person using the well, selected by the AGA or Gramodaya Mandalaya and trained by the project. The duties of the caretaker include supervision of the use of the well, keeping the well and its surroundings tidy, greasing the hand pump, informing the Project about any defects, and informing the other users about importance of safe drinking water and how to keep the well and surroundings clean.

Nearly 600 caretakers have already been trained in 19 training courses arranged so far.

Progress

The total number of completed hand pump wells upto end of October, 1985 is 884 of which 694 are hand dug wells and 190 drilled deep wells.

Methodology

The request for a gravity scheme comes from the villagers to the AGA, either straight or through Gramodaya Mandalaya, Special Service Officer or other Gramasevaka level officers.

After the Project receives the request the procedure is as follows:

- the project officers inspect the water source
- if the water source seems to be useful it is further investigated.
- a meeting is then hold in the village to discuss the design, construction and maintenance of a proposed scheme
- in the meeting labourers for first stage of construction are selected
- the intake is then constructed, and after completion it's yield and water quality is monitored at least over one dry period.
- the possible coverage of the network is then calculated on a basis of the minimum yield
- after that another meeting is held in the village to discuss the result of the previous work.
- the sites of the standposts are designed together with the villagers.
- the standpost caretakers and scheme caretakers are then selected from among the villagers.
- the designs are prepared by the project and approved by the NWS&DB.
- the construction work is then done partly as Shramadana work and partly using hired labour from the village.

The target in designing and implementing gravity schemes is that villagers can operate and maintain them without any help from outside. All the parts of the intake, reservoir and delivery network are locally available. Even if the schemes will formally be handed over to the

authorities, caretakers are encouraged to supervise the scheme and when needed, to collect money and replace damaged parts.

Training

The duties of caretakers are to supervise the use of the standpost, keep its surroundings tidy, get minor repairs done and inform about bigger defects as well as inform the other users about importance of safe drinking water. So far the Project has trained caretakers for one gravity scheme.

Progress

One scheme has been constructed and one renovated so far. One scheme is under construction at the moment. In addition to that intakes have been completed for four schemes.

Co-operation

The gravity schemes are designed and constructed in close co-operation between villagers and the Project. Local authorities are involved only in organizing meetings.

The Co-ordinating Committee and NWS&DB project office are of course always informed and kept upto date.

Remarks

The experiences got from gravity schemes have been positive. If the caretakers are well trained and motivated, they are willing and able to operate and maintain the scheme. One of the most important thing is that the delivery network is so small that even in dry season water is availabe in every standpost. Otherwise the maintenance will fail.

4.3 Piped schemes (using ground water)

Altogether the Project will construct about 182 km pipe lines, 14 water reservoirs, 14 break pressure tanks, 13 intakes, 3 booster stations and 2 iron removal plants as well as 16 quarters for operational staff.

Methodology

Water will be given through public standposts (500 nos.), which have been located according to the wishes of the villagers whenever possible, or house connections of which each are separately metered.

Only the intakes and booster stations are constructed by the Project using direct labour while the others will be constructed by the local contractors.

Training

The Project will train the operational and maintenance staff employed by NWS&DB for each scheme.

A caretaker will be trained for each standpost by the Project.

Progress

The Project has completed all the design work and working drawings needed for tender documents and preparation of tender documents. Also the tenders have been called by NWS&DB for all the eleven schemes and the construction for nine schemes awarded. The construction of seven schemes have already been commenced by contractors. The completion of the construction is now roughly 40%.

Co-operation The schemes have been designed according to NWS&DB's design criteria and the extension of distribution systems have been decided in close co-operation with NWS&DB and local authorities. The villagers have located the standposts whenever it has been possible.

Remarks It has been very difficult to limit the extension of distribution systems only to the areas which fulfil the design criteria since all the people want to have piped borne water.

4.4 Sanitation

The sanitation component of Harispattuwa Project means the supply of material for 5,000 latrines in 1984 - 85 with a possible extension of 11,000 latrines in 1986 - 1987.

Methodology The work is done in close co-operation with authorities of Ministries of Health and Local Government, Housing and Construction. The main objective of the programme is to make a latrine construction possible for thos who cannot otherwise afford it. The material supply provided by the project make it possible to construct a high standard latrine upto the ground level. The superstructure is not included in the provision, because it can be made of free or very cheap material available locally.

The health education campaigns and other health programmes mentioned in chapter 4.5 lies foundation of the success of the sanitation programme, that is shortly proceeded as follows:

- the smallest administrative units, Gramasevaka Niladhari Areas, are taken under the provess one by one.
- the health workers, health volunteers and community leaders of the area are trained for the programme.
- one-week health and sanitation promotion programme, including exhibition, health education films, films to attract people, educational slide show and delivery of the educational material is

held in area (if the area consist of clearly separate villages, the programme is held in each one).

- the health workers and project officers discuss with villagers about the three types of latrines available and deliver application forms.
- the villagers fill the forms and agree to construct the latrine in certain time after receiving the materials.
- the Project produces and delivers the material to the nearest accessible roadside with the help of the beneficiaries.
- the beneficiaries build the latrines following the instructions given by the trained health volunteers, and copying the model toilets, that are built in central places on the village during or before the health and sanitation campaign.
- the statistics are kept by the Project Officers with the help of the health volunteers, that are paid for this work.

Progress

The sanitation programme was commenced in June, 1984. By the end of October, about 4,500 beneficiaries had received the material and about 2,400 beneficiareis have also completed the latrine (upto ground level).

Co-operation

By implementing the sanitation programme the project must co-operate with the authorities of Ministry of Health and Ministry of Local Government, Housing and Construction. The main co-ordinating body, the National Co-ordinating Committee is meeting very seldom and discussing mainly about the principles. For the practical co-operation the Co-ordinating Committee of the Project has established a sub committee for sanitation.

On the field level the Project works in close co-operation with Public Health Workers, Health Volunteers and Community Leaders of the village. This co-operation has been successful.

Remarks — The main problem in sanitation has been the delay in construction of latrines by the villagers. During the application procedure people are very active, but after getting the material the activity often stops.

4.5 Health Education

The health education component of the Project aims to educate the beneficiaries on the value of using safe drinking water and sanitary latrines.

Methodology — The main responsibility of the health education lies on the existing health authorities of the Ministry of Health.

A Health Education Programme Plan for the years 1985 and 1986 has been prepared by the Project together with Ministry of Health. The health education within the Project is mainly done according to this programme. The main activities of the programme are:

01. A suty on Morbidity and Mortality in Hospitals.
02. A study on Indigenous Medical Practitioners.
03. Training of Public Health Staff and Hospital Staff.
04. Preparing a manual for Public Health Field Staff.
05. Orientation/Training of Community Leaders.
06. Training of Community Health Volunteers.
07. Training of Science Teachers of schools.
08. Essay and poster competitions in schools.
09. Preparation of primary school text book.
10. Health education campaigns (preceding latrine construction programme, see chapter 4.4).

In addition to the activities according to the Programme Plan, a study is carried out about the diarrhoea epidemic affecting Harispattuwa in early 1985.

A separate health education programme was also developed for the Muslim areas of Harispattuwa after it was found out that the above mentioned epidemic mainly spread in Muslim villages.

Progress

Most of the activities have been started and about 75% completed by the end of 1985.

Co-operation

The health education work is mainly done by the health personnel of Ministry of Health. The co-operation with them has been very successful.

Until the end of October, 1985 a local consultant firm was also involved in the health education work of the Project.

The co-operation on village level have been successful, especially during the health education campaigns.

Remarks

The main problem has been the delay in the programme. The reasons for the delay may be:

01. too heavy programme.
02. other work load of the public health staff and/or
03. delay in the work of the local consultant.

Sri Lanka Non-Governmental Organisations
Water Supply and Sanitation Decade Service
(NGO Decade Service)
26, Melbourne Avenue, Colombo 04.

Introduction.

The NGO-Decade Service was established in 1982 as an Umbrella Organisation of Non-Governmental Voluntary Organisations (NGOs)) engaged in Community development and specially in the water/sanitation sector. The Decade Service is a response from the Sri Lankan NGOs to the International Drinking Water Supply and Sanitation Decade (1981 - 1990) declared by the UNO. Current membership is thirty national level NGOs. It DS was initially sponsored by UNDP which had established similar 'Decade Cells' in Bangladesh, India & Nepal.

Organisation.

The NGO Decade Service comprises three organs, viz 1. The NGO General Council to which each member NGO nominates two representatives. 2. The Governing Board composed of the office bearers of the General Council, five NGO member representatives and five representatives from the ministries of Local Government, Finance and Planning, Plan Implementation the Health Education Bureau and the National Water Supply and Drainage Board. 3. The Secretariat headed by an Executive Secretary and other staff.

The General Council, usually meets once a year, and deliberates on general policies, lays down guide-lines and is responsible for the overall direction taken by the Decade Service. The Governing Board ensures that programmes and activities of the Decade Service are consonant with the policies and guidelines laid down by the General Council. The Secretariat implements the programmes and activities approved by the Governing Board. It is accountable to the Governing Board which in turn is responsible to the General Council.

Objectives

The principal objective of the Decade Service is to assist NGOs to enhance their capacity for project planning, management and evaluation in order to become more effective in the water/sanitation sphere in particular and in other sectors in general. No improvement in water and sanitation can be acheived without affecting peoples attitudes and behaviour at the most personal level. Hence peoples' participation becomes a crucial factor if the targets of the National Drinking Water Supply and Sanitation Decade Plans are to be acheived. Thus the Decade Service is specially committed to develop participatory approaches to community development and particularly to water/sanitation programmes.

Activities

The activities of the Decade Service are carried out in collaboration with member NGOs, International agencies and government agencies. To acheive its objectives the Decade Service has undertaken a variety of activities some of which are:-

Cont....2.

1. Non-formal Training in project planning, management and evaluation through workshops and discussion sessions.

2. Non-formal Training of village level volunteer health promoters.

3. Field training in water/sanitation - needs assessment designing appropriate systems, construction, use and maintenance etc.

4. Non-formal training in hand-pump maintenance and repair - this programme is accomplished through the training facilities of the National Water Supply and Drainage Board.

5. Development and production of health educational materials eg. posters, flash cards, models, slides and photographs.

6. The Decade Service also coordinates efforts of NGOs, UN agencies, other International agencies and government agencies. Sharing and dissementation of information is attempted through its quarterly news-bulletin, the LINKS.

Special attention paid to those activities which cannot be easily undertaken by an individual NGO. For instance, the development and production of health educational materials or the design and production of handbooks for volunteer health workers and other community development workers. Care is taken when undertaking such activities to collaborate with NGOs and make them, as far as possible, joint efforts. Thus, the Decade Service will not undertake anything which member NGOs can achieve by their own efforts. The Decade Service is therefore, more a facilitating body than an implementing agency.

Activities/Programmes completed and/or ongoing.

1. A quarterly News Bulletin is now regularly published featuring news of members' experiences and collaboration especially in water and sanitation and developments in this sector especially in the South Asian Region. Health Education, Commuonity Participation and Programme Communications are emphasised.

2. A Source Book on the Water Supply and Sanitation Decade, Comprising information on :
   * Project Planning, management, monitoring and Evaluation.
   * Government, NGO, UN Agencies and other development agencies in the Decade.
   * Technical aspects on water and sanitation systems with designs.
   * Training, Education and communications for the Decade.

is already issued to the members in loose leaf form.

Contd. 3...

3. Three workshops were conducted for NGOs in Kalutara, Kandy and Colombo. The workshop in Kandy was a planning workshop where 6 NGOs in Kandy decided to work on a single project. The one in Kalutara was a training workshop on water and sanitation and the one in Colombo was on project planning, management, monitoring and evaluation.

4. A Hand Book for the use of Volunteer Health Workers is being developed and will be producted shortly.

5. A kit of 30 screen printed health education posters has been developed and produced in collaboration with US Save the Children Federation.

6. A small but useful collection of books, periodicals and reports on water and sanitation is maintained for members' use.

Links with Ministries

1. Ministry of Health: The Decade Service has obtained the services of the personnel of the Department of Health in conducting workshops and in the training volunteer Health Workers. The Medical Officer of Health, Health Educators, Public Health Educators and Family Health Workers are the personnel most frequently requested for assistance.

   The Health Education Bureau has assisted the Decade Service in the development of health education materials.

2. Ministry of Local Government, Housing & Construction:

   District level water/sanitation projects are coordinated by the Assistant Commissioner of Local Government (ACLG) and the Decade Service in its work in various communities always obtains the assistance of the ACLG and his assistants.

   The Decade Service has strong links with the National Water Supply and Drainage Board (NWSDB) especially through its Training Unit and the recently established Rural Sanitation Unit.

3. Ministry of Plan Implementation: This ministry has assisted the Decade Service significantly in conducting workshops for NGO members by providing resource persons and by technical advice.

Contd. 4...

Special Projects.

The Decade Service is implementing an experimental field training programme in Punchiwilaththawa, and a health education programme at Matara sponsored by the Overseas Development Administration. The programme at Punchiwilaththawa, in the Puttalam district is very comprehensive comprising activities promoting local NGOs and the technical skills of NGO personnel, Health education, planning and management of the construction of lavotories and community wells. The basis of the entire programme is community participation. The Decade Service firmly believes that development is not a mere project but a process and as such peoples participation is absolutely vital. Development is prinicipally human development which is the foundation for social and economic development.

*****

Paper submitted to the National Workshop to share Experience of PSWS and Sanitation - Planned and Implemented with Community Participation. 2nd to 6th December, 1985, Colombo, Sri Lanka

SARVODAYA'S PUBLIC STANDPOST WATER SUPPLY (PSWS) PROJECTS

The Sarvodaya Movement has been assisting villages to satisfy their basic needs for the last 27 years. Part of this effort was always directed to the water and sanitation sector, often on rather unsophisticated basis (digging of open wells, etc.), later with growing expertise and technical finesse.

For a brief summary of Sarvodaya's history and its overall objectives and working principles see Appendix 1.

Today, a major part of Sarvodaya-assisted infrastructure projects are backed up technically and financially by its Rural Technical Services section.

The Sarvodaya Rural Technical Services (SRTS)

The Sarvodaya Rural Technical Services Section was opened in 1977/78, after an agreement between Sarvodaya and HELVETAS, Switzerland, was reached, under which Helvetas makes available to Sarvodaya the services of two to three technical advisors. Helvetas also has been running the major part of the SRTS project activities ever since. Other organizations such as CWT, UK have also funded SRTS assisted projects.

SRTS has grown considerably since its inception, and comprises today (1985) more than 100 trained, fulltime workers in decentralized technical units distributed over about 12 of the 24 administrative districts of Sri Lanka, where SRTS supported projects are being executed.

SRTS is a service section to the Sarvodaya movement as a whole, and to the district level branches in particular. SRTS thus does not implement projects on its own, but acts on requests from the villages, reaching SRTS through the Sarvodaya district branches. The district centres are charged with preselecting the requests, since any project activities should fit into the overall development plans of the villages. SRTS then determines the technical and financial feasibility for project support. Some district projects have developed into longterm programmes (e.g. the gravity water supply programme in the hill country areas, the drinking water well programme, etc.), other projects are supported rather on a case to case basis.

Availability of technical expertise, manpower and finances are important constraints when considering project support. But the single most important factor for a successful project is the genuine need for and the total committment of the benefitting community to a particular project. The communities must contribute substantially to all infrastructure projects, by taking responsibility for implementation, ownership and maintenance, as well as by contributing all unskilled labour and locally available material.

SRTS does not support projects carried out in a vacuum. The satisfaction of material basic needs is just one step on the long road to the awakened, self-reliant community Sarvodaya envisages. Integration of any project activity into the overall community building efforts of Sarvodaya is an essential feature of all SRTS work.

SRTS activities cover a wide range, from agriculture to water supply and sanitation, from afforestation to building roads and bridges. In the context of this workshop, the following presentation is limited to the PSWS sector.

The SRTS PSWS-Programme

The following pages briefly highlight the basic methodologies and the responsibilities of the community in connection with a PSWS-Project:

- Decision making flow chart (Appendix 2)
- Duties and responsibilities (Appendix 3)

The drawings at the end of the paper give an impression of typical technical features of a PSWS-Project:

- Situation Plan Ratemulla
- Standardplan for 4 m3 Storage Tank
- Standardplan for Public Standpipe.

The progress achieved since 1979 is documented in Appendix 4.

Experience with Completed Projects

In August and September 1985, 35 completed projects were visited, and their technical and social performance checked.

The findings can be summarized as follows:

Most of the systems technically functionned properly, except 2 or 3 villages, where total neglect and vandalism had disrupted the supply partly or fully. Minor defects like leaking taps or spring catchments blocked by roots were reported in a number of cases. There were no apparent shortcomings in design and construction of structures and pipelines, however.

The operation and maintenance (O + M) procedures adopted by the communities are often unsatisfactory, due to various human and social factors prevalent in a village community. There are two trained caretakers from each village equipped with a tool kit. But sometimes they face obstacles in carrying out their duties, such as lack of community support, pressures by various influential persons, etc. The human factor in O + M of a PSWS is obviously much more important than mere technical construction details, and even Sarvodaya villages are naturally subject to internal social conflicts.

Still, the evaluation also showed many villages (well over 50 % of the total visited) where the systems were managed satisfactorily, and in many cases even excellently, by the communities.

At present, the social impact of the projects is being subject to a more in-depth evaluation in a sample of 10 selected villages by a team of social researchers of the Peradeniya University. The findings will help SRTS to improve selection, motivating and O + M procedures in future projects.

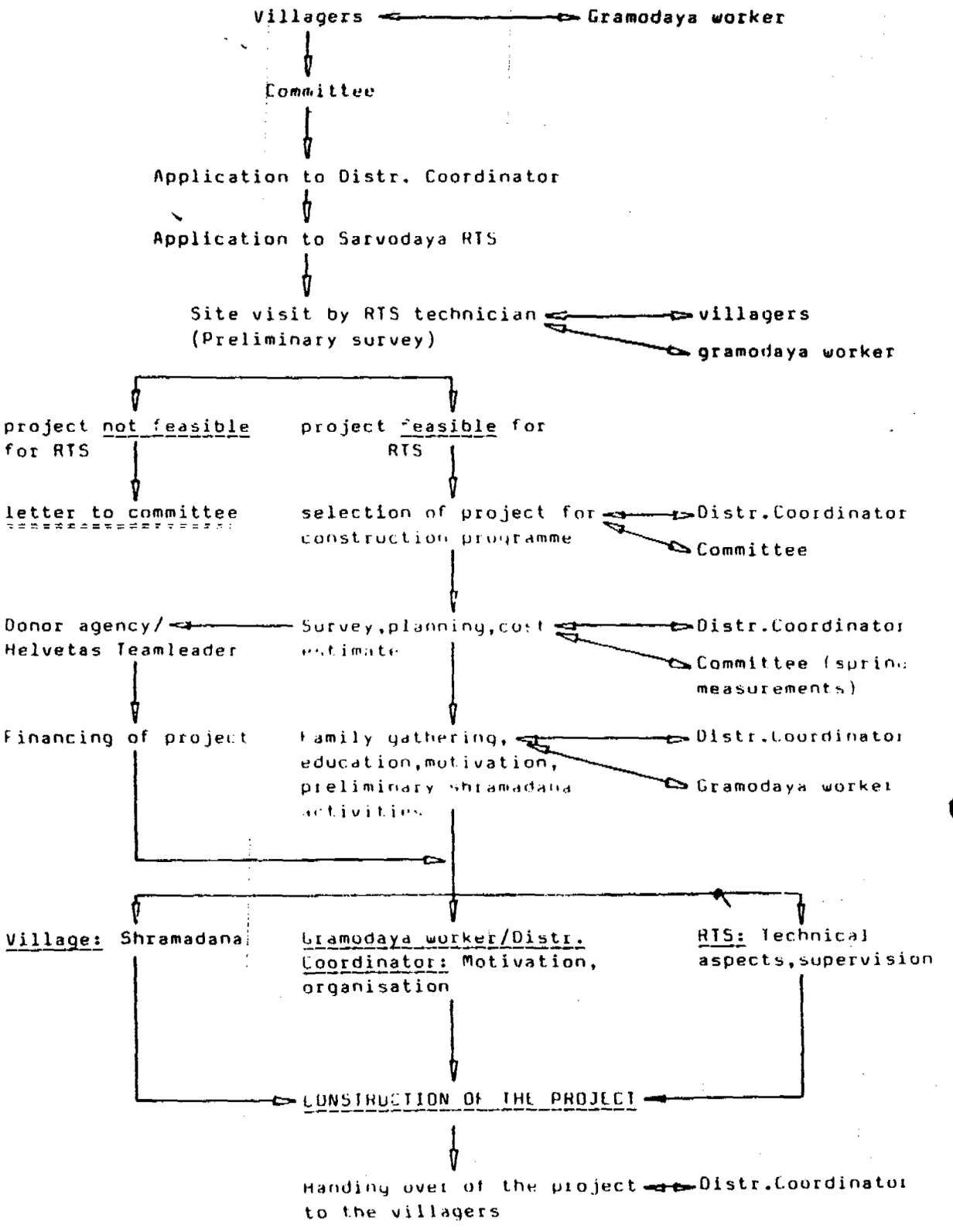
Moratuwa, November 30, 1985

Sarvodaya Rural Technical Services

W.G. Ganegama, Coordinator

U. Steiner, Engineer

1.2 Decision making flow chart for the construction of a VWS for a Sarvodaya village through RTS



1.3 Duties and responsibilities of parties concerned in the construction of a VWS in Sarvodaya villages

District Centre / Gramodaya Centre :

Selecting the villages
Motivation and education work (health)
Organising the village and organising shramadana work (together with the RTS supervisor)
Raising funds for the project

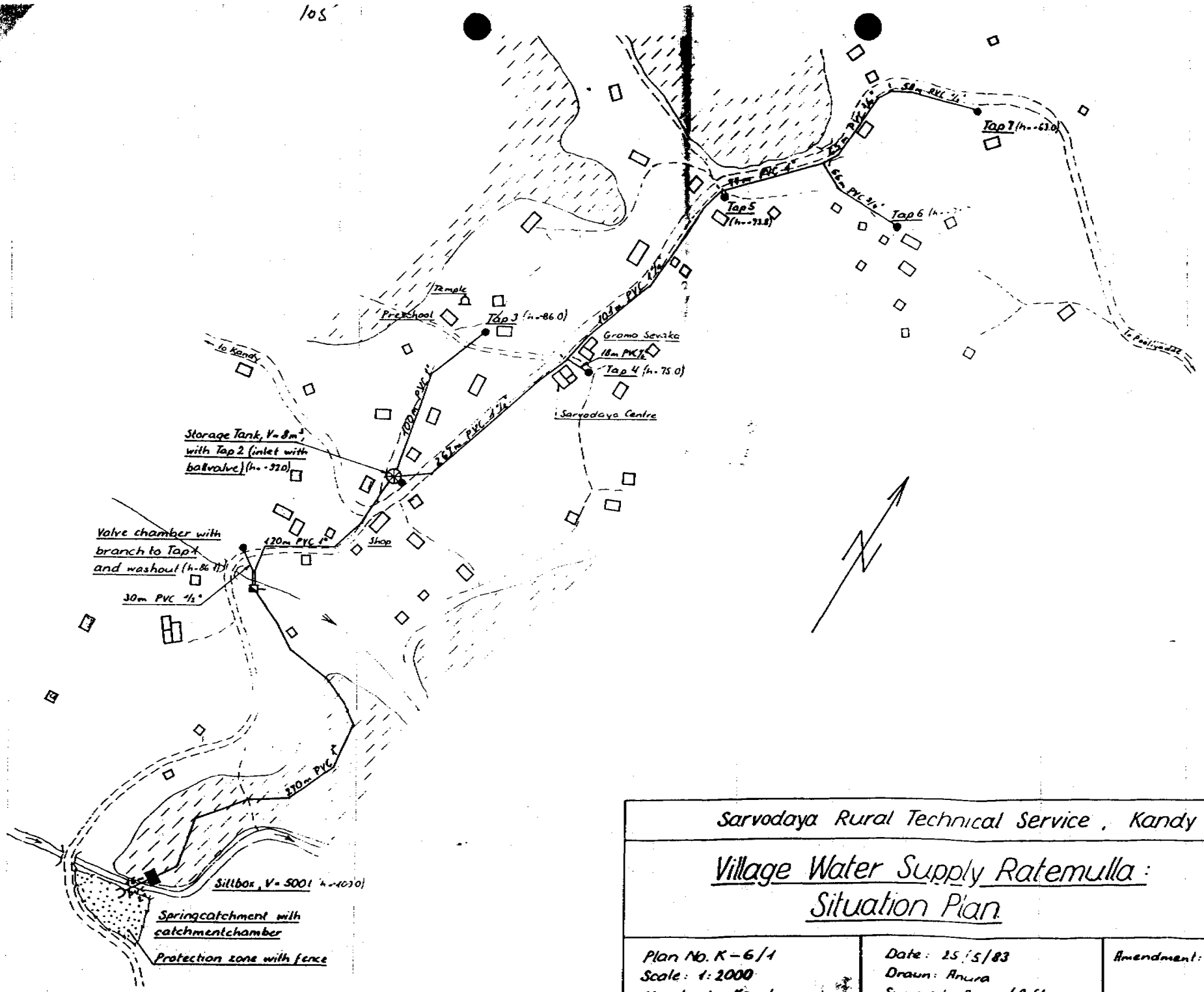
Rural Technical Service :

Responsible for all technical aspects like
- Preliminary survey (together with the District Coordinator or the Gramodaya worker)
- Survey and planning of the VWS, estimation of the costs
- Construction work (supervision, skilled labour)
- Supply of the necessary building materials which cannot be organised by the villagers (e.g. pipes, cement)

Training the villagers and the caretakers about maintaining the finished project
Assisting the District Coordinators and the villagers in finding financial aid

Village :

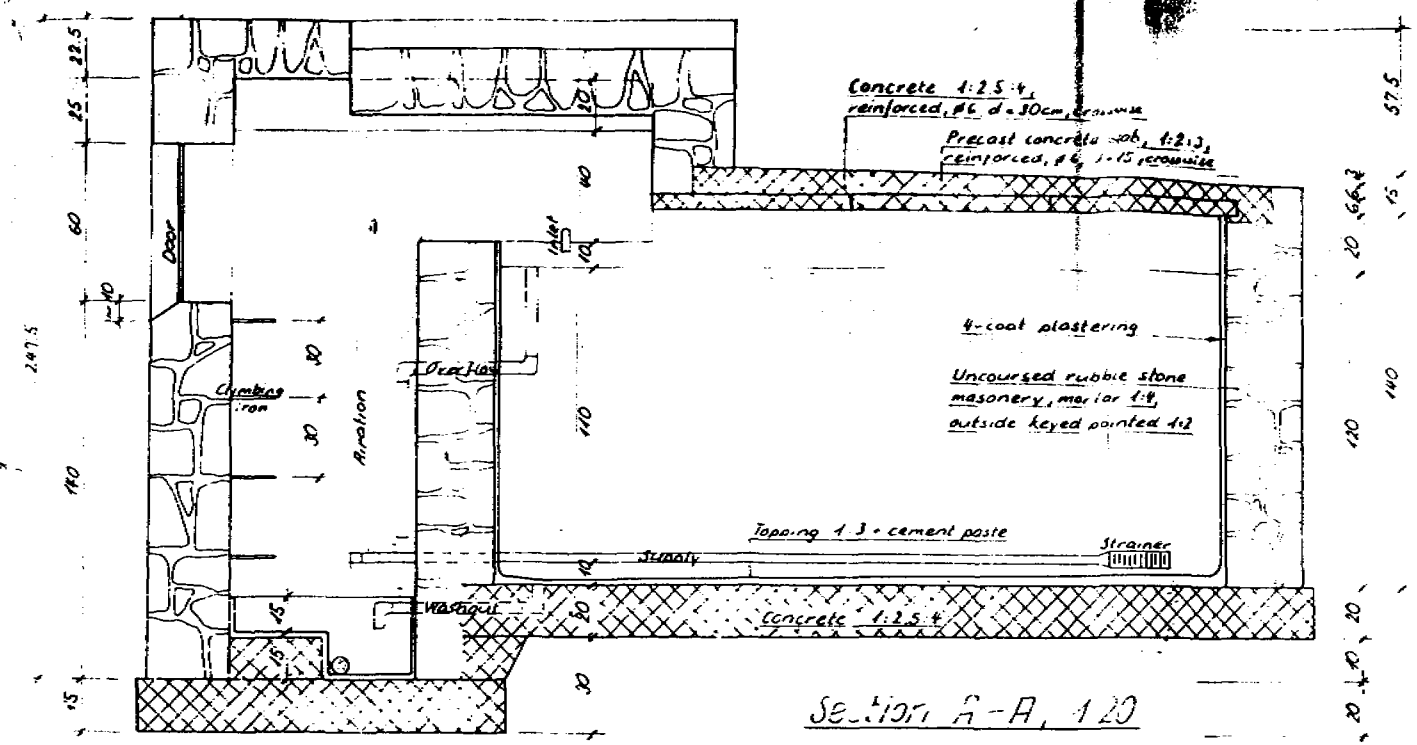
A Shramadana society has to be established
- A committee has to be elected (water committee, development committee)
- Watermeasurements have to be made according to the need of RTS.
- Preliminary shramadana work must be done (clearing catchment area, digging an access road, etc.)
- Legal requirements have to be settled (springs, land, protection zone)
- Participation in leadership and health training courses
  Try to find financial aid
- Give accomondation and if possible food to the RTS-staff working in the village
- Establish protection zone behind and around the catchments and plant forest
- Do all unskilled labour like
  - Digging trenches and pits and also do the backfilling
  - Assist the RTS worker in his daily work
  - Supply all the building materials like sand, metal, stones and transport them to the places where they are needed
- Take over the full responsibility for operation and maintenance of the finished project



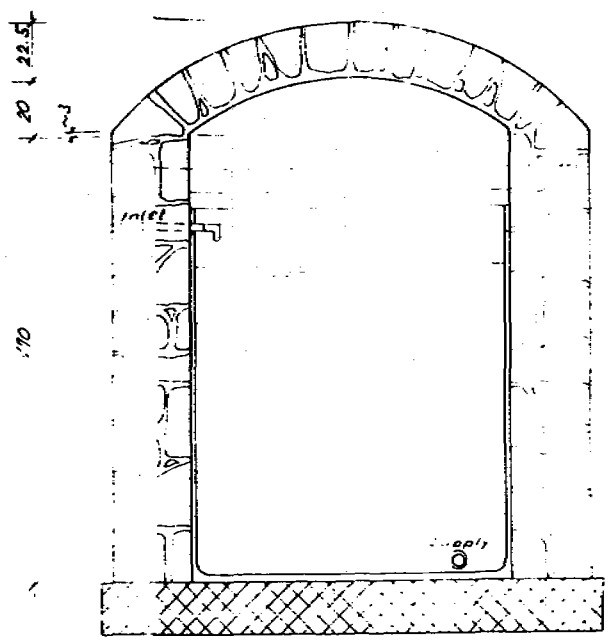
Sarvodaya Rural Technical Service, Kandy

Village Water Supply Ratemulla: Situation Plan

Plan No. K-6/1 Scale: 1:2000 Mapsheet: Kandy	Date: 25/5/83 Drawn: Anura Surveyed: Anura / R.St.	Amendment: 30/8/83, R.St. 30/5/84, R.St.



Section A-A, 1:20



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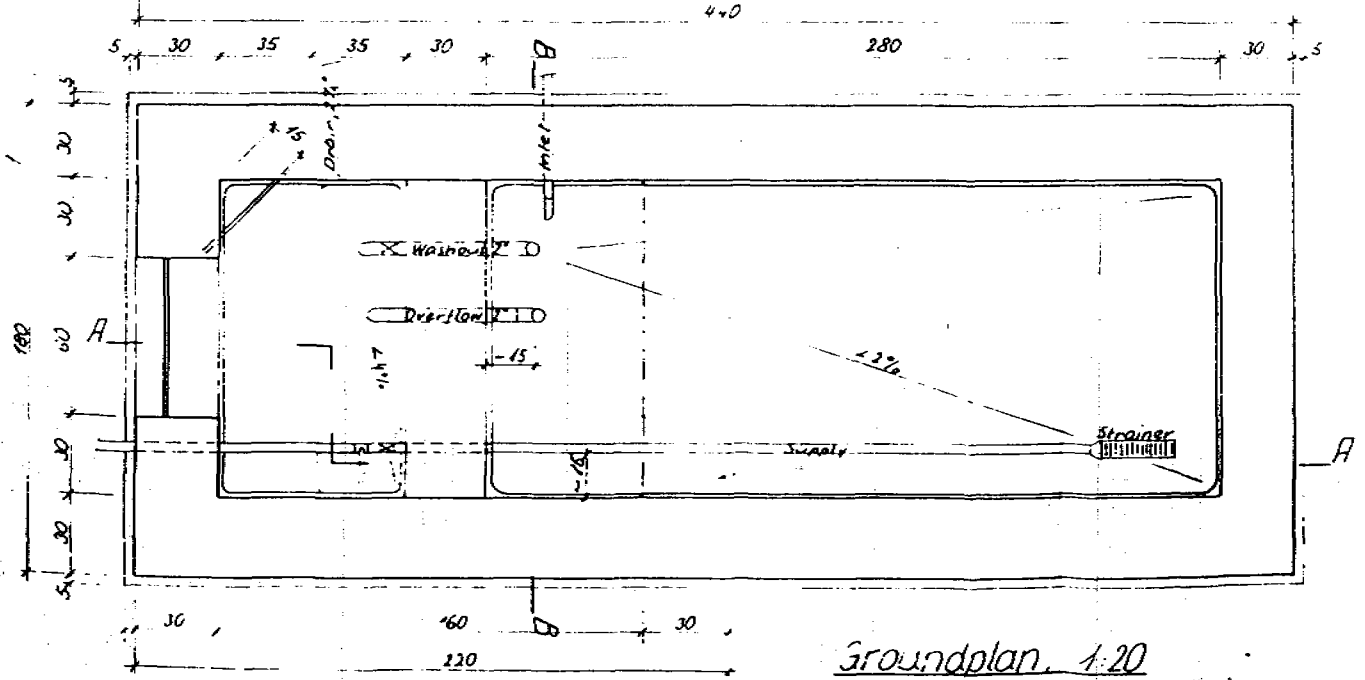


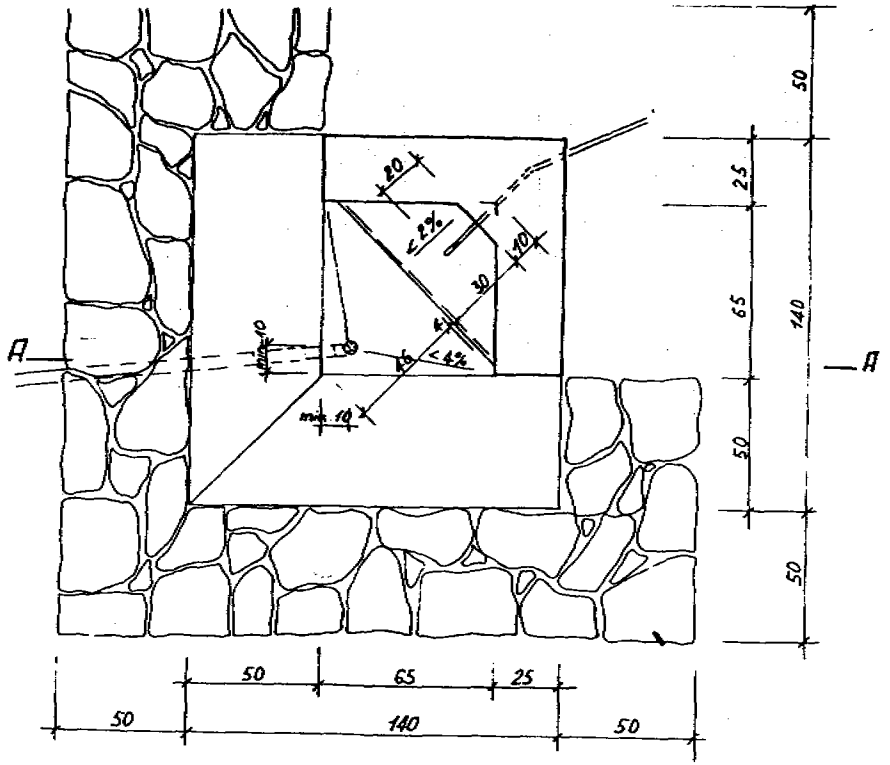
Groundplan 1:20

Remark The capacity of 4m³ can be altered to 2, 3 or 5m³ by reducing or increasing the length of the tank

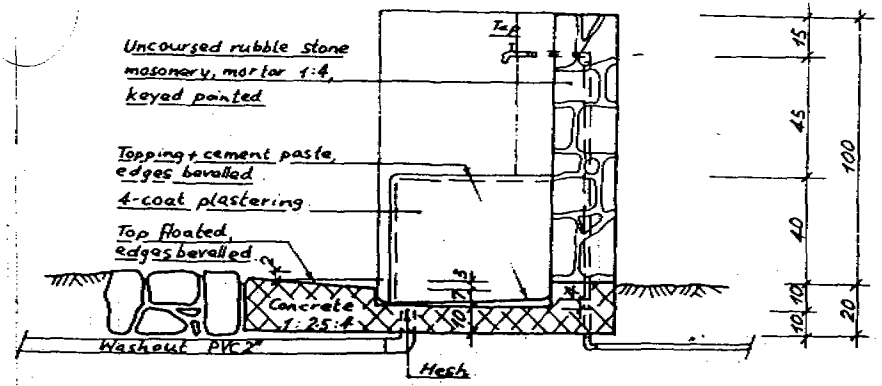
Survey of Kenya Technical Service

Design Curdplan for Water Supplies 4m³ - Storage Tank

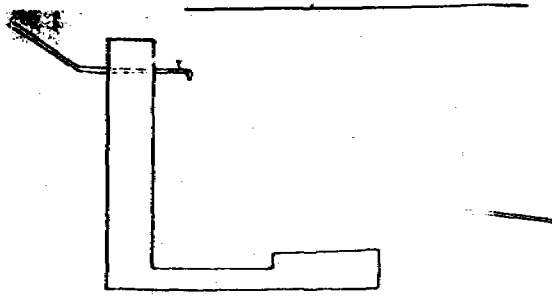
Plan No. S-3	Amendments 26.4.83
Scale 1:20	1.6.84
Date 31/10/83	
Drawn Nimai	



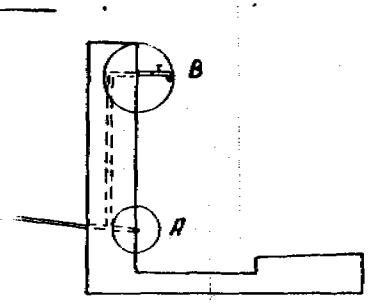
Groundplan. 1:20



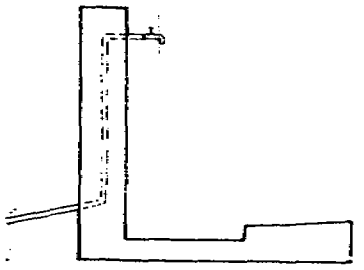
Section A-A 1:20



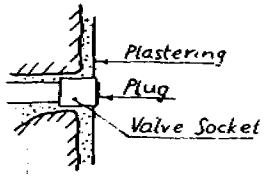
Type A: Washout (below main pipe)



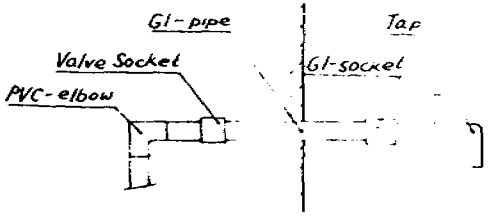
Type B: Separate Washout



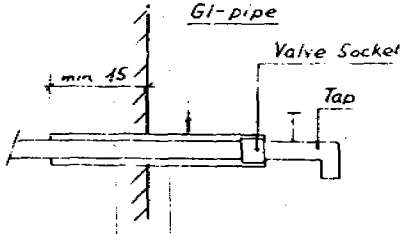
Type C: Air release (above main pipe)



Detail at A



Detail B: 1st possibility



Detail B: 2nd possibility (better)

Sarvodaya Rural Technical Service.

Standardplan for Village Water Supplies: Public Standpipe.

Plan No.: S-4 Scale: 1:20	Date 5/5/83 Drawn: Anura / R.Sl.	Amendments 27/10/83, R.Sl. 29/06/84, Nimal ( )

COMPLETED WATER SCHEMES 1980 - December 198[illegible] Appendix A 1

Village	District	No. of people served	Year compl.	Remarks
1. Panakura	Avissawella	500	1982	Village Water supply
2. Thuppitiya	Badulla	210 +school	1983	" " "
3. Kotamihinne	"	130	1984	" " "
4. Bambarapana	"	300	1984	" " "
5. Pool ella	"	450	1984	" " "
6. Badulu Oya	"	1100	1985	" " "
7. Kahatapastenna	Kandy	400	1981	" " "
8. El Ottuwa	"	250	1981	" " "
9. Gunabil	"	475	1982	" " "
10. Ekiriya	"	700	1982	" " "
11. Katukandeolla	"	250	1982	2 waterpoints +2 Stand
12. Shanti Janapadaya	"	1200	1982	Village water supply
13. Atgalla I	"	220	1982	Waterpoint
14. Labuhenawala	"	300	1982	2 Waterpoints
15. Hapugasdeniya	"	220	1982	Village water supply
16. Kotaligoda	"	400	1983	" " "
17. Nellikolawatta	"	300	1983	" " "
18. Makempe I	"	300	1983	Waterpoint
19. Pallegama	"	450	1983	Village water supply
20. Kottupihilla	"	300	1983	Waterpoint
21. Kandekumbura	"	230	1983	Village water supply
22. Kalupihilla	"	260	1984	" " "
23. Atgalla II	"	400	1984	Waterpoint
24. Warapitiya	"	500	1984	"
25. Kattadulla	"	600	1984	Village water supply
26. Pedro Hill Colony	"	250	1984	" " "
27. Kirindulla	"	250	1985	" " "
28. Kirimetiya	"	450+ estate l	1985	" " "
29. Hiengolla	"	150	1985	" " "
30. Alugolla	"	300+ school	1985	" " "
31. Makempe II	"	300+ school	1985	" " "
32. Perakumpura	N. Eliya	200	1982	Waterpoint + irrigation
33. Lamasooriya	"	350	1983	Village water supply
34. Malheewa	"	600	1984	" " "
35. Gaminipura	"	800	1985	" " "
36. Mawarala	Matara	200	1982	Waterpoint + 2 standpi
37. Indigahahena	"	120	1984	Waterpoint
38. Wilpita-Kitulhena	"	120	1984	"
39. Dehigampola	"	400	1984	Village water supply
40. Wattalabbahena	"	250	1984	" " "
41. Pitabeddara (Malpudanaella)	"	100	1985	Divisional Centre and 2 standpipes
42. Uda-Pasgoda	"	250	1985	Village water supply
43. Kalugalla	Ratnapura		1980	Estate workers water s
44. Opata	"	600	1980	" " " "
45. Welanduwa	"		1980	" " " "
46. Sunderland	"	500	1981	" " " "

WATER SCHEMES UNDER CONSTRUCTION AS OF DECEMBER 1985 Appendix

Village	District	No.of People served	Remarks
1. Katugastota Colony	Kandy	250	Village water supply
2. Galaboda/ Dolosbage Town	"	600 +school + hospital	" " "
3. Gannewa	"	1000	" " "
4. Godamunna	"	1100	" " "
5. Dunumadawa	"	300 +school	" " "
6. Bonawalapathanna	"	600 +school	" " "
7. Boralanda Central School	"	school (1200 students)	School Water supply
8. Hanguranketiya *)	N'Eliya	1000 +school	Village water supply
9. Aberdeen *)	"	950	" " "
10. Galawalawatta *)	"	850 +school	" " "
11. Wayamitawa *) ✓	Matala	700 +school	" " "
12. Kithetilla	Badulla	300	" " "
13. Ranjallawa	"	500	" " "
14. Rukathanawatta	"	500	" " "
15. Mawarala-Watteheniyaya ✓	Matara	120	" " "
16. Haberakada *)	Galle	500	" " "
17. Koswatte(Neluwa) *) **)	"	250	" " "
18. Uduwaka	Avissawella	500	" " "

*) Completely or partly financed outside of Helvetas budget

**) With slow sand filter unit

In addition, a number of projects are under preparation.

Note: The estate water supply in Craig Estate was taken over by UNICEF

DRINKING WATER WELL PROGRAMME

Appendix - 3

STATE OF THE WORK - DECEMBER 31, 1985 (Work began in 1980)

District	Completed wells 1)	Handpumps installed	Wells under construction 2)	Total wells
[illegible]	[illegible]	14	[illegible]	[illegible]
Anuradhapura	11	2	25	38
[illegible]	[illegible]	4	[illegible]	[illegible]
Chilaw/ Puttalam	[illegible]	8	13	39
[illegible]	[illegible]	[illegible]	[illegible]	30
[illegible]	[illegible]	-	3	[illegible]
[illegible]	[illegible]	-	[illegible]	24
Matale	[illegible]	22	[illegible]	68
Polonnaruwa	[illegible]	1	11	35
Trincomalee	17	10	-	17
Vavuniya	8	12 3)	-	8
Kalutara	-	30 1)	-	-
Total	333	103 3,4)	105 2)	438 2)
Change in reporting period	+ 46	+ 6	- 27	+ 19

1) including lining with cementrings and wellhead construction

2) excavations not included where no work for shaft was done so far

3) including 5 pumps in GTZ-field-test

4) UNICEF field test (incl. 10 new SL5 pumps)

LATRINE CONSTRUCTION PROGRAMME

Appendix 4

STATE OF THE WORK - DECEMBER 31, 1985

District	No. of latrines						Total
	Completed			under construction			
	PL	VIP	WS	PL	VIP	WS	
Anuradhapura	1	9	8				11
Badulla		12	15		29	11	67
Colombo (West)			29		12		49
Kandy	297	18	12		82		429
Kurunegala	1		4				5
Matale		2					2
Matara		3	45			10	58
N'Eliya	35						35
Total	513			144			656

Remarks: - PL = simple pit latrine / VIP = ventilated improved pit lat
WS = waterSealed latrine

- Records were kept in Kandy from 1982, in other districts from 1984/85. Earlier work in various districts is not shown in above table.

- Completed latrines in reporting period: approx. 100

THE SARVODAYA MOVEMENT

Background

The Sarvodaya Movement was started by Mahatma Gandhi in India in the 1920s. "Sarvodaya", which means "well-being for all", took as its basic principles, Truth, and Non-violence. In Sri Lanka, the Movement was started in 1958 by Dr. A.T. Ariyaratne, and it operated on a voluntary basis without formal structure or paid staff for ten years. In 1968, a development scheme was undertaken in 100 villages located throughout the country, and by 1971 the Movement has spread to 300 villages. In 1972, it was recognized by an Act of Parliament, and the organization's first major grants from the Dutch NGO, NOVIB and the Friedrich Naumann Stiftung of Germany, were received. By 1978, the Movement had hundreds of professional and semi-professional full time workers, 54 extension centres, and had undertaken work in 2000 villages across the island. By 1985, there were more than 7000 full and part-time workers, most on small allowances and stipends rather than competitive salaries. The Movement is estimated to reach some 6000 villages, in which over 3000 pre-school groups are operational.

(Quoted from: "Sarvodaya Shramadana Movement. An Assessment". Condensed version of CIDA evaluation report by Ian Smilie et al., January 1985, printed by Vishva Lekha Press).

Well Being of All

"Sarvodaya means the Awakening of all and Shramadana means the sharing of one's time, thought and effort". The goal of the Movement is to promote a way of life which contributes to the happiness of both oneself as well as others. The word Sarvodaya was coined by Mahatma Gandhi to differentiate between the western utilitarian concept of the "maximum happiness of the majority" and the Asian Hindu-Buddhist concept of the Well-being of All, in which he believed. Sarvodaya Movement does not base its work on a minority-majority distinction, a distinction that is generally made in western ethical discussions.

The Buddhist influence inspired us to use the concept of Awakening which, of course, includes the Well-being of All, as the central thought in Sarvodaya. This awakening can take place in individuals without being individualistic, in families or groups, in village or urban communities, and in national communities without being exclusive and as a world community embracing the whole of humanity. We found that such a goal gives every individual a chance to progress both economically and morally, while not abandoning his role as a member of any of the above groups. In other words the Sarvodaya notion of causal dependence allows for both possibilities: a person changing a society and a society changing the person.

Sarvodaya has thus shifted the emphasis of development from becoming a mere economic exercise and instead made it into an awakening process, whose application ranges from personality awakening of individuals to universal awakening of individuals to universal

awakening of nations. As individuals or groups, governmental or non-governmental, small or big, every person can become a participant-beneficiary in such a Movement.

Infrastructure Building

Having laid a psycho-spiritual infrastructure in the community by a constructive work programme, where all members of the community - men, women and children - gift their time, thought and effort, Sarvodaya workers proceed to help the people in establishing a social infra-structure where the members of the community get organised according to their age-groups and needs pertaining to those age-groups. For example, an organised nursery group goes into the question of nutrition, child-health care and psycho-social development of the children of the pre-school age. An organisation of mothers help in day care programmes, immunization campaigns, home gardening, savings and credit schemes, community shops and income generating small projects. Youth groups go into every aspect of the integrated village development as well as participation in Sarvodaya activities at divisional district, national and international level.

The most important instrument for structural change in the village is the Sarvodaya Shramadana Society at the village level which becomes a legal personality once registered with the government. Under the law this society enjoys corporate status to undertake within its capacity a wide range of development activities which will have both material and spiritual components. All the other training centres co-ordinating bodies and the national and international arrangements are to facilitate the activities of these societies by helping them with needed skills, knowledge, capital and organisational strength.

Sarvodaya is not working in a vacuum. It has to contend with lots of other forces which influence the life of local communities directly or indirectly. Some of these forces which negatively affect these communities and work in a direction opposed to where Sarvodaya wants to move, obtain their ideological, technological, institutional and financial nourishment from internationally powerful establishments.

Therefore while a psycho-spiritual, social, economic, institutional and technological infra-structure is built at the village level, it is necessary for the Movement to take other steps to strengthen and provide protection for them. Some of the steps that the Movement has taken in response to those challenges are:

1) obtaining the services of a trained and experienced full-time volunteer to co-ordinate and support a cluster of villages not exceeding ten;

2) establishment of Divisional Centres for several clusters of such villages, each centre with a minimum of five senior full-time Sarvodaya workers to co-ordinate, support, train and have liaison with governmental and other agencies;

3) establishment of District Centres, one for each administrative district of the country and Development-Educational institutes to carry out the same functions at a district level

4) establishment of a National Coordination Centre to carry out the above functions with a national and international dimension and

5) establishment of over fourty specialised divisions such as Sarvodaya Children's Services, Sarvodaya Rural Technical Services, Sarvodaya Shanti Sena (working for national peace and harmony), Sarvodaya Research Institute and Sarvodaya International Services.

(Quoted from the address delivered by Dr. A.T. Ariyaratne to the opening session of the Conference of Non-Governmental Organizations at UN Headquarters New York on 5th September 1984)

Ten Basic Needs

A community that decides to follow the Sarvodaya path to self-development accepts the importance of awakening themselves as individuals, families and as a group of families. Besides satisfying their physical and cultural needs such groups and communities also recognize the importance of fulfilling their psychological needs.

Sarvodaya sees ten basic needs as essential for human wellbeing. The material needs are for a pleasant, healthful environment, water, clothing, food, housing, healthcare, communication, and energy. The other needs are education and the spiritual/cultural needs.

D.P. MADIKARI.
Project Director. IRDP.
Nuwaraeliya.

Drinking Water Supply & Sanitation Component of the IRDP, Nuwara Eliya

The Nuwara Eliya IRDP commenced its activities in 1980 with the assistance of the Royal Netherlands Government, and this is the fifth year of the implementation of the project. This project works on annual plans prepared within the broad aims and objectives of the project.

Initially, the Government of Netherlands has agreed to provide Rs.150 Million for the 6 year project period and there is a possibility for an enhanced allocation and also extension for the agreed period.

Approximately Rs.35 - 40 Million is available for an annual programme.
This programme is flexible and hence adjustments in activities could be made throughout the whole period or even new projects could be commenced yearly.
Target Group approach and popular participation play a significant role in the programme.
At the moment the project has 20 components and deals with nearly 22 - 24 line agencies.

The general objective of the IRDP drinking water supply programme is the long-term improvement of the standard of water supply and environmental health in the district. In concrete, this implies a variety of measures directed towards the construction and rehabilitation of closed water supply systems which offer good quality drinking water at no further walking distance than approximately 500 metres from the door-step.

(*) There are nearly 300 requests made from villages and estate boards - the IRDP seeks to raise the overall capacity for scheme implementation operation and maintenance at various levels of scale as well as the awareness of related aspects of environmental health among the members of the communities involved.
The consultant on drinking water supply has stated that if we take 100 schemes a year it would require an annual capital investment of Rs.15 million.
This amount is substantially exceeding the finances available at present.
The annual allocation we can afford from the IRDP is approximately Rs.5 million.

The IRDP intends achieving the objective by means of:

- Establishment and strengthening the appropriate organisations at the District A.G.AA divisions and community level.

- Improvements of..... 2

(*) In view of the magnitude of the problem it has been estimated that there is a demand for nearly 1000 drinking water schemes in the district.

- Improvements of the macro planning capability and the co-ordinating and monitoring efficiency at the district and A.G.AA division level.

- Improvements of the engineering capacities by means of technical advise & training.

- Optimal participation of local population in planning, construction and maintenance of drinking water schemes.

- Assistance to public health programmes in relation to drinking water.

- Financial assistance for the construction of water supply schemes.

Planning and implementation of drinking water schemes differ between estates and villages.
This organisational difference justifies to deal separately with these two sectors.

Drinking water supply schemes in villages

1 Establishing and strengthening of appropriate organisations.

The IRDP has not been very successful in increasing the efficiency of the existing machinery.
(The district Water Committee met very irregularly and lacked clear terms of reference to operate actively).
Neither a co-ordinating body at district level nor the decentralization of planning and construction at the divisional level resulted in improved designs and be.ter co-rdination between the various organisations involved.

2 Improvement of the quality of the schemes by strengthening the technical capacity in the district and by training

Data are insufficient to judge the technical viability. Hence detailed field checks on the part of the IRDP are required. Strengthening of the technical capacities at district level is needed to cope with the demand for improved water supplies.

Physical conditions of the area determine the type of water supply systems and the population preferences have led to a shift of emphasis from pipe borne systems to wells, wherever this is technically feasible.

Training of..... 3

An inservice training is essential to the staff of the Local Government Department involved in this scheme.
In view of the insufficient contribution of the staff of the local level of the organisation, more training activities may have to be organised.

3 Participation of the local population in planning, construction & maintenance

Involvement of the beneficiaries at the initial stages is in giving assistance to find suitable places for intakes and to discuss siting of stand-posts or tanks. During the construction phase in in most schemes the beneficiaries participated in the levelling of sites for tanks and digging of trenches for pipes and other earth work.

To make sure that this is done in all places it is advisable to leave out cost for unskilled work from the estimates.

Maintenance of such schemes is poor both by the users and the Local Government and is a major issue of concern.

4 Financial Assistance to the Construction of Water Supply Schemes - A shift towards maintenance

The construction of new pipe borne water schemes will be reduced considerably because of past experiences and the population's preference for wells. These experiences include delays in the construction of schemes because of the complexity of the procedures of the number of Institutions involved; the lack of clarity of the tasks and the responsibilities of these institutions.

In addition the IRDP organised a seminar on water supply and revealed that out of the 160 odd pipe borne schemes in the district, only about 30 are working.
This indicates that the construction of new schemes will only be a temporary solution and add to the complexity of the problem. Therefore the IRDP decided to give priority to the issue of repair & maintenance equipment for upgrading and rehabilitation of existing schemes. The programme included deep wells and shallow wells to overcome some of these problems.
Approximately an annual programme consists of 30 village water supply schemes.

5 Assistance to Public 4

5 Assistance to Public Health Programmes in connection with drinking water

For all newly constructed drinking water systems, the IRDP has assisted by a public health programme related to water use. The participation of the population in this regard varies from one community to another.

Finally the monitoring revealed the importance of paying attention to the protection of the source of pipe borne water systems. If necessary the catchment area of the source will be re-afforested to be certain of the presence of water supply.

The IRDP emphasises the construction of water seal latrines in villages where water supply schemes have been completed. Assistance to construct private latrines are given on individual basis and approximately Rs.1000.00 is allocated per latrine, and nearly 400 latrines are constructed annually. The IRDP insists active participation of the beneficiaries in the construction of latrines and beneficiaries are selected on accepted criteria.

Summarizing the above, it can be said that the IRDP's experience with activities in the field of drinking water makes clear that the construction of new schemes does not necessarily contribute to an all over solution of the problems. This particularly applies to pipe borne schemes.
In fact the IRDP will have to concentrate on the design of an effective approach to the improvement of the drinking water situation according to the preferences of the population and in accordance with the technical and organizational capacities available in the district.
At the same time it must work systematically in the increase of technical capacities and the streamlining an organizational structure in this field.

Drinking Water Schemes in Estate Sector

IRDP has always followed a "package" approach in its estate programme. The components of the package are water supply, latrines, housing improvement/upgrading along with health facilities and creches.

In the case of water supply schemes in estates, designs and estimates are prepared by estate contractors. Presently there is no engineer attached to Regional Boards nor an outside agency assisting in these aspects. Therefore IRDP plays an important role

in providing..... 5

in providing technical assistance. The IRDP technical officers visit divisions of estates where schemes were proposed and make a study of the area and water availability with the estate contractor or relevant persons employed by the estate.

Subsequently a note is prepared including a set of guidelines and specifications for each scheme. The estates prepare estimates accordingly.

The emphasis in estates water supply schemes is on pipe borne water supply schemes because a number of difficulties experienced in village schemes do not appear in estates.

Approximately 35 - 40 schemes are implemented annually in the estate sector and some of them may not be completed during the year.
Nearly 15,000 people are benefitted annually by these schemes.

Participation by the beneficiaries in all stages has been emphasised continuously by the IRDP. During the planning phase the design is mainly decided by the management and the contractor with the assistance of the IRDP Engineering Assistant. The beneficiaries views are taken into account for intake selection, siting of standposts etc. Participation during the execution of the scheme is mainly for earth work like in the village schemes. In some estates performance in this regard is extremely good and in some estates improvements have still to be made. We have made a start in some places where the IRDP provides materials and the beneficiaries construct structures like stand posts.

At all levels, Regional Boards Management and the work force are in agreement with the idea that work on free basis is needed more.

The principle of free labour for these types of jobs is also discussed during the meetings which the IRDP organises per division before work starts.

A more positive and supportive attitude of the management seems necessary, while the actual organisation could be left over to leaders of the people or the Estate Medical Assistant, or the Family Welfare Supervisor.

As in the village schemes the protection of the intake is important. In general intakes have been fenced and arrangements have been made to protect these sources.

Health Education 6

Health Education Programmes are carried out in those divisions where water supply schemes are being implemented. This is mainly done directly by the IRDP with the assistance of the medical staff of estates.

Promotion of latrine application

The infant mortality rate in Nuwara Eliya is higher than the national average (199 per 1000 as against 51.2 per thousand) and there are some essential correlations between infant mortality and the availability of toilet facilities. The table given below shows that there are differences in mortality levels according to the type of latrine

Type of toilet	Death per thousand post neonatal	Child
Flush or water seal	16	21
Bucket or Pit	20	29
No facilities	31	41

(Source - Socio Economic Determinants of Infant and child mortality in Sri Lanka, by Dr.S.A.Meegama. Scientific Reports No:8, April, 1980 of the World Fertility Survey. International Statistical Institute - London). According to the survey done by the IRDP in 1982 on the use and availability of toilet facilities on estates it was revealed that nearly 80% of existing latrines had no proper water supply close by or had no water supply at all. Absence of this type of facilities leads to breeding of flies and transmission of disease.

Infection by hook work which causes anaemia is prevalent in estate areas and conservative estimate shows that 61 - 70 percent of the estate population suffer from anaemia. All available data indicates that lack of water facilities contributes to a great extent to the filthy conditions of the latrines.
The incidence of diarrhoel diseases on estates mainly depends on the availability and use of toilets and availability of drinking water.

The IRDP programme to provide latrines has the following characteristics:

- Provision of water seal latrines only in those divisions where water supply is satisfactory or can be inproved at the same time.

- Provision of water..... 7

- Provision of water close by or even attached to the latrines.

- Provision of private latrines for each family/two families living in single line room/in double line rooms

- Siting latrines in consultation with the residents.

- Free labour from the beneficiaries for preparing the site and digging the pit.

- The training of two volunteers from each line: One woman and one man as Health Education workers

Annexures:

1 - Illustration of the three types of rainfall patterns in Nuwara Eliya District.

2 - Agro-ecological regions of Nuwara Eliya District.

3 - Monitoring sheet of IRDP Water Supply Component

4 - Specifications on materials

5 - General Guidelines on construction aspects

FIGURE 1: Illustration of the three types of rainfall patterns in the Nuwara Eliya District.

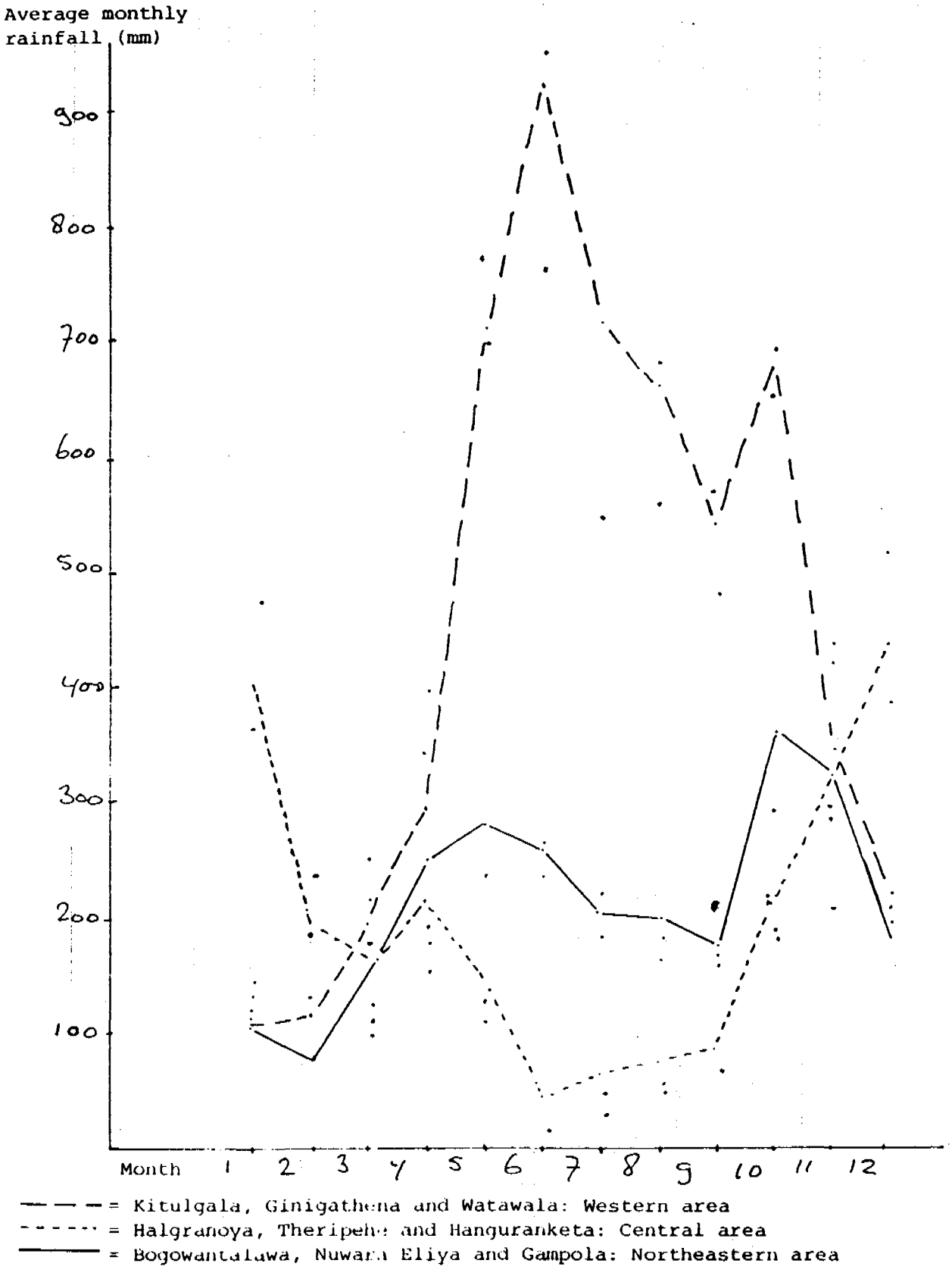
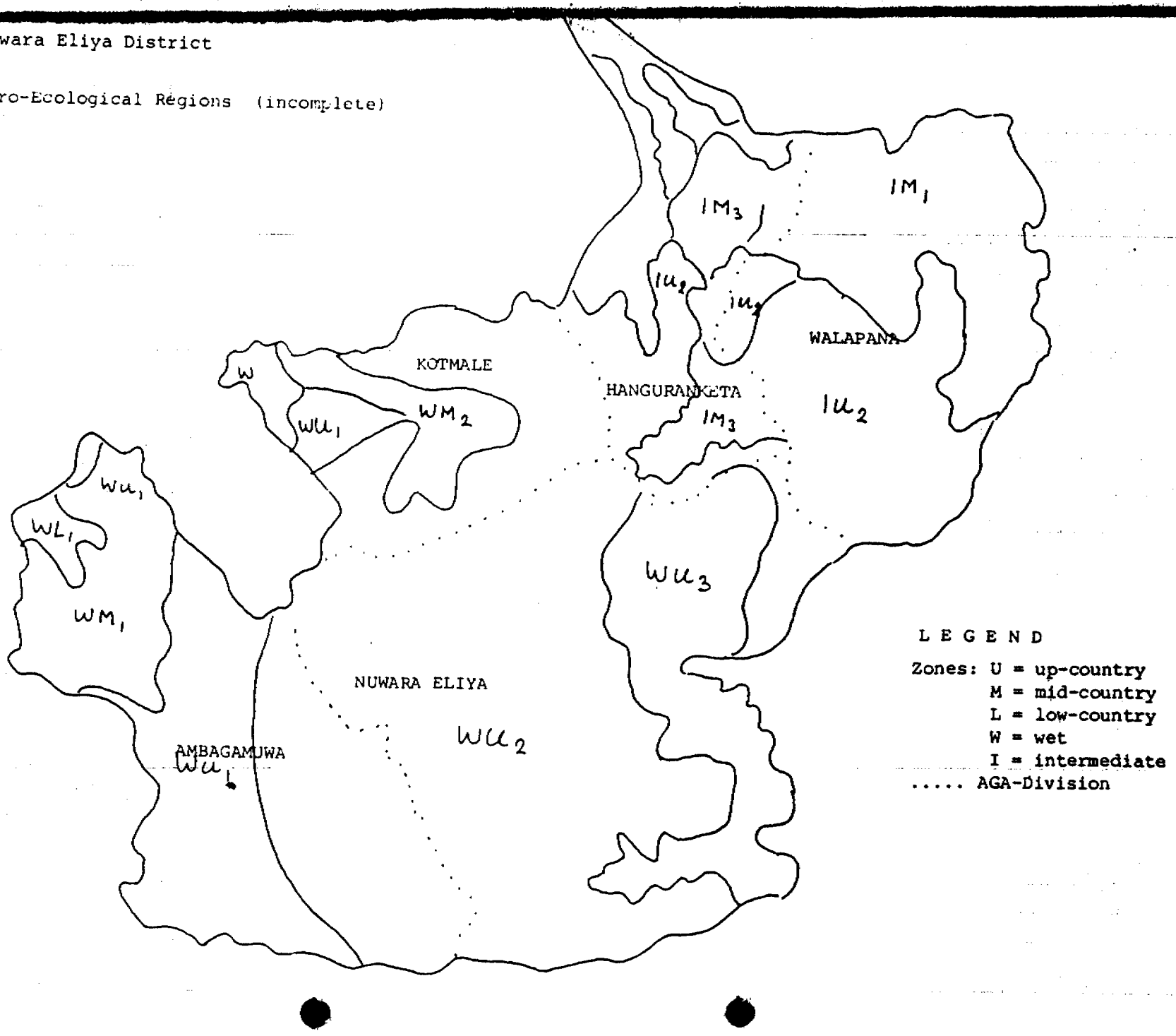


FIGURE 2: Nuwara Eliya District

Agro-Ecological Regions (incomplete)



cdisc: 4A
cfile: ws85
date : 26/09/85

1985 PROGRAMME

DRINKING WATER SUPPLY

FILE NO	NAME SCHEME	LOC	GSDIV	TYP	BENEFITS FAM	BENEFITS STUD	ALLOC	ESTIM	IMPL.BY	EXPENDITUR	POSITIREMARKS	
WSAN01	Dagampitya	aab	317	pb			100.000	100.000	sarv	120.000	mat suppl	
WSAN02	Hangarapitiya	aab	318	pb	31		43.000	43.000	rds		progr	
WSAN03	Getagahawatha 1	aab	318	pb	48		60.500	60.500	suboff		no start	
WSAN04	Getagahawatha 2	aab	318	pb			52.000	52.500	rds			
WSAN05	Murutatenna	aab	318	pb	68		100.000	130.000	gra		progr	
WSAC01	Kehelgamukanda	aab	315A				69.000	69.000	aclg		compl	
WSAC02	Kadawala	aab	315A				140.000	140.000	gra		progr	
WSHN01	Happawara	han	491	tw	70		50.000		wrb		invest	
WSHN02	Pallewela	han	484	pb	100		52.000	52.000	rds		signed	
WSHN03	Dimbulkumbura	han	484A	tw	30		50.000		wrb		invest	
WSHN04	Rammala kandura	han	491A	tw	30		50.000		wrb		invest	
WSHN05	Denike sch	han	482	pb	0	660	50.000	64.036	rds		progr change design	
WSHN06	Bastayawatta	han	484A	pb			15.000	14.831	rds		compl	
WSHN07	Wadawala	han	479	pb	75		20.000	30.635	rds		start	
WSHN08	Wadawala sch	han	479				15.000				estimate	
WSHN09	Kandurahade	han	481A	pw	50		15.000	10.012	rds		compl	
WSHN10	poramadulla sch	han	482	pb	0	200	50.000	49.990	rds		progr	
WSHN11	Welapahala	han	481A	sw	20		25.000	14.575	rds		progr	
WSHN12	Pitawela	han	481A	pw	20		25.000	12.981	rds		*progrlocal problem	
WSHN13	Paddiyapal sch	han	510	pb			5.000		gad		compl	
WSHN14	Meemanakotuwa	han	481	pb	30		20.000	29.116	rds		progr	
WSHC01	Bodhimalkada	han	481A	pb			29.000	29.000		29.000	compl	
WSKN01	Mawela Kudupola	kot	456	sw	30		20.000	19.608	gad		start	
WSKN02	Goraka oya	kot	460	pb			10.000	7.486	gad		compl	
WSKN03	Harangala	kot	460	pb			10.000	6.938	gad		compl	
WSKN04	Wataddara Dowit	kot	465	sw			10.000	6.466	gad		compl	
WSKN05	Wataddara sch	kot	465	sw			10.000	9.499	gad		compl	
WSKN06	Pihillegedara	kot	466	sw	18		10.000	3.637	gad		compl	
WSKN07	Agulgehena	kot	466	sw	15		10.000	4.333	gad		compl	
WSKN08	Delgahamaditta	kot	466A	sw	27		10.000	12.924	gad		compl	
WSKN09	Mahamilla	kot	466A	sw	12		10.000	6.306	gad		progr	
WSKN10	Beliungala	kot	467A	sw	35		10.000	3.637	gad		compl	
WSKN11	Hevenmewa	kot	467A	sw	24		10.000	8.711	gad		start	
WSKN12	Teberumkotuwe	kot	468	sw	15		10.000	8.164	gad		compl	
WSKN13	Bogahawela	kot	468	sw	40		10.000	6.674	gad		compl	
WSKN14	Halpolalinda	kot	468	sw	35		10.000	8.905	gad		compl	
WSKN15	Kamalawatta	kot	468	sw	30		10.000	6.624	gad		compl	
WSKN16	Meddepitiya	kot	468B	sw	15		10.000	7.982	gad		compl	
WSKN17	Deniya	kot	468B	sw	20		10.000	6.365	gad		compl	
WSKN18	Mahamagoda	kot	468B	sw	25		10.000	6.182	gad		compl	
WSKN19	Kandakumbura	kot	468B	sw	25		10.000	5.385	gad		no start	
WSKN20	Delameda	kot	470	sw	35		10.000	9.388	gad		no start	
WSKN21	Pansale	kot	470	sw	20		10.000	9.388	gad		no start	
WSKN22	Ramboddagama	kot	472	pb	28		25.000	15.000	irdp		materials	
WSKN23	Palagolla	kot	474	pb	120		75.000	112.000	rds/irdp		materi	180.000
WSKN24	Gomburuoya	kot	474A	pb	85		100.000	115.000	gad/irdp		start	
WSKN25	Gonegahakumbura	kot	467A	sw	20		10.000	8.557	gad		compl	
WSKC01	Kahawalanthanne	kot	473	pb	15		47.000	47.000	gad		compl	
WSKC02	Helbodda gama 1	kot	474A	sw	16		2.400	2.400	gad		compl	
WSKC03	helbodda gama 2	kot	474A	sw	14		6.300	6.300	gad		compl	
WSKC04	Karagasthalawa	kot	474A	sw	20		12.000	12.000	gad		compl	
WSKC05	katnygahinna	kot	473	sw	12		2.000	2.000	gad		compl	

WSKC06	Rawanagoda	kot	467	sw	30		8.400	8.400	gad	compl
WSKC07	Gerandiella	kot	474	pb	31		36.500	36.500	gad	compl
WSKC08	Talawanthanne	kot	474	pb	40		75.000	75.000	gad	compl
WSKC09	Delta Gamunup	kot	474A	pb	135		75.000	75.000	gad	compl
WSNN01	Bopatalawa	nel	475B	pb	85		250.000	320.000		start
WSNN02	Lamiliera col	nel	475C	tk	10		10.000		suboff	start
WSNN03	Malaha col	nel	475C	tk	15		10.000		suboff	start
WSNN04	Kotagalla 1	nel	478	sw	13		15.000		suboff	start
WSNN05	Kotagalla 2	nel	478	sw	12		15.000		suboff	start
WSNN06	Kandapola	nel	534	tw	20		50.000		wrb	
WSNN07	Seeta Eliya 1	nel	478	pb	800		250.000	355.000		start cont 86
WSNN08	Seeta Eliya 2	nel	478	pb			0.000	181.500		start cont 86
WSNC01	Pattipola 1	nel	477	sw			14.500	14.500	subof	start
WSNC02	pattipola 2	nel	477	sw			14.500	14.500	subof	start
WSNC03	Walaganbapura	nel	475B	sw			10.250	10.250		compl low qual
WSNC04	Kande Ela 1	nel	476A	sw			14.500	14.500	subof	compl
WSNC05	kande Ela 2	nel	476A	sw			14.500	14.500	subof	start
WSWN01	Kodagala	wal	518A	sw	15		15.000	16.000		nostart
WSWN01	Warakakandura	wal	518A	sw	14		15.000	4.400		nostart
WSWN03	Goonegahinna	wal	523	sw	20		15.000	9.000		signed
WSWN04	Ambanella	wal	523	sw	25		15.000		irdp	
WSWN05	Madulla 1	wal	527	tw	40		50.000		wrb	
WSWN06	Madulla 2	wal	527	tw	32		50.000		wrb	
WSWN07	Wegolla	wal	531	sw	15		20.000	15.000		signed
WSWN08	Meegaspitiya	wal	531	sw	12		20.000	12.000		signed
WSWN09	St Leonards 1	wal	533	sw			15.000	dropped		no agreement with
WSWN10	St Leonards 2	wal	533	sw			15.000	dropped		beneficiaries
WSWN11	St Leonards 3	wal	533	sw			15.000	dropped		
WSWN12	St Leonards 4	wal	533	sw			15.000	dropped		
WSWN15	Heenpehila	wal	528		14		20.000	15.000	irdp	nostart
WSWN16	Pahalagama	wal	528		35		20.000	16.000	irdp	nostart
WSWN17	Munatatilla	wal	528		18			12.300	irdp	nostart
WSWN18	Wildanadahinna	wal		tw		1175	50.000		wrb	nostart
WSWN19	Diyanilla	wal		tw		160	50.000		wrb	nostart
	TOTALS				2701	860	2678.350	2578.085		

SPECIFICATIONS ON MATERIALS

1. CEMENT: Shall be the best Portland cement of approved manufacture and shall comply with the requirement of the current B.S.S. No: 12.

2. SAND: Shall be clean and free from adhering coatings. Screened river sand is best.

3. BRICKS Shall be hard, sound, well burnt, true to size and shape and free from cracks.

4. RUBBLE Shall be pieces of hard black stone with size not exceeding 9".

5. WATER Fresh and clean water shall be used for structural works.

CONDITIONS ON PIPES AND CONNECTED SPECIALS

1. The quality of the different categories of pipes and the connected specials and fittings shall confirm in every respect to the requirements to the current B.S.S.

2. All G.I. Pipes and connected specials and fittings shall be of the best and heavy qualities.

3. All P.V.C. specials and fittings shall be of the "MOULDED TYPE".

3a P.V.C. Pipes should be Type 1000 AND RIGID QUALITIES.

4. All brass specials and fittings shall be of the best and heavy qualities and should be capable of resisting a pressure of atleast 250 pounds per square inch.

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AAA/nk

G E N E R A L

a. All categories of pipes to be burried as far as possible at leasst 1'-6" below ground level on land or estate areas and 2'-6" below surface across and alongside roads.

b. Where pipe lines are exposed due to unavoidable situation and at road,drain,culvert and bridge crossings,such pipes should be in G.I. and piers built to support them as per plan.

c. Fixing union joints at every 100' or less intervals as in cases when odds of 100' occurs on pipe lines for detachment when necessita for cleaning/repair purposes.

d. All branching off pipe lines to stand posts,other sections etc., from main pipe line to be provided with necessary gate valves close to branching points and chambers built to enclose same.

e. Fixing of appropriate sizes of gate valves housed in chamber on Distribution Main pipe lines where depression is great to regulate steady supply to all section concerned.

f. Casting & erecting of requisite number of stand posts to locations, units,cottages etc., as per plan.

g. Fixing of necessary size of strainer rose at outlet pipes at Intake and Reservoir.

h. The outlet, washout, inlet and overflow pipes at Reservoirs. Tanks and intake dams to be of short lengths of G.I. with projection of 6" on either sides of sturcture, threaded at both ends and embedded in concrete 1:2:4:(3/4) at least 6" around pipes, the pipes welded with ½" Ø M.S. roads at two points to prevent movement.

i. Barbed wire fencing with entrance gate in sufficient area around intakes and service Reservoirs/Tanks.

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