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**SOCIO-ECONOMIC UNITS, KERALA**  
**KERALA WATER AUTHORITY**  
**INTEGRATED WATER SUPPLY & SANITATION PROGRAMME**

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SOCIO-ECONOMIC UNITS, KERALA  
KERALA WATER AUTHORITY

SIX-MONTH REPORT, APRIL-OCTOBER 1991

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GLOSSARY

ARWS.....	Accelerated Rural Water Supply programme
CE	Chief Engineer
CO	Coordinating Office of the Socio-Economic Units
DANIDA.....	Danish International Development Assistance
DGIS	Directorate General for International Cooperation (Netherlands)
EC	Executive Coordinator of the Socio-Economic Units
FO.....	Field Organizer (temporary field staff of SEUs, based in panchayats)
GOI	Government of India
GOK	Government of Kerala
GON.....	Government of the Netherlands
ICDS	Integrated Child Development Scheme
I.P.D.	Investigation, Planning & Design Division of the Kerala Water Authority
KWA.....	Kerala Water Authority
LPCD	Liter per capita per day
MD	Managing Director of the Kerala Water Authority
MLD.....	Million liter per day
O & M	Operation and Maintenance
PSG	Planning, Services and General
PANCHAYAT.....	Local Administrative Authority for a Rural Area covering a population of 15,000 to 30,000
PLANOP	Plan of Operation
PMU	Project Management Unit of the KWA
PO(C).....	Programme Officer (Community Organisation)
PO(H)	Programme Officer (Health Education)
PWC	Panchayat Water Committee
RNE.....	Royal Netherlands Embassy
STA	Senior Technical Adviser (Danida)
SEU	Socio-Economic Units
SEA	Socio-Economic Advisor
TLO.....	Technical Liaison Officer (DGIS)
VO/NGO	Voluntary Organization/Non-Government Organization
WARD.	Each panchayat is subdivided into wards, the basic unit of local government, covering a population of 2,000 to 4,000.
WNC.....	Ward Water Committee works with the SEUs at the ward level, in charge of many activities. It is a voluntary group composed of 5 to 7 members including at least 2 women and the elected ward member who is also a member of the panchayat.
ONE LAKH	100,000.
ONE CRORE	10 Million

**BACKGROUND**

The Kerala Water Authority is entrusted with the provision of safe drinking water, specifically piped water, for the entire state. It has charge of approximately 1,600 water schemes of varying size. Among these are 11 piped water schemes being implemented with the support of the Governments of The Netherlands and Denmark. The 11 piped-water schemes, number of panchayats each covers and population as of 1981 are:

**Dutch-Supported**

Vakkom-Anjengo-6 panchayats- 134,000 population (1981)  
 Kundara-7 panchayats- 160,000 population (1981)  
 Cheriyana-1 panchayat- 20,000 population (1981)  
 Koipuram- 1 panchayat- 24,000 population (1981)  
 Thrikkunnapuzha- 5 wards -about 12,000 population  
 Nattika-Firka- 10 panchayats- 231,000 population (1981)  
 Mala- 6 panchayats- 136,000 population (1981)  
 Pavaratty- 18 panchayats- about 400,000 population

**Danish-supported**

Eddapal- 5 panchayats- 127,000 population (1981)  
 Kolacherry- 8 panchayats- 171,000 population (1981)  
 Cheekode I- 3 panchayats- 56,000 population (1981)

As stated in the Plan of Operation, the long-term objective of the Socio-Economic Programme is to improve the health and living standards of the people. Specifically, the immediate objectives of the project are, in partnership with the KWA, to:

- a. facilitate the integration and institutionalization of relevant socio-economic activities and methods into the KWA's current programme for water supply;
- b. continue to develop integrated, sustainable and replicable strategies which will, within the community and household—
  - contribute to improved hygiene/health practices related to safe handling and use of water,
  - enhance sanitation practices and essential sanitary facilities.
- c. strengthen/establish mechanisms which enable people and their local institutions to plan and participate in activities related to water supply, sanitation and hygiene education. Particular emphasis will be paid to women's involvement.

There are three Socio-Economic Units, each with three professionals, and supporting administrative staff. The Units currently have temporary field workers. Each unit is based in a regional office of the KWA. The first Unit (called SEU-North) was established with Danish support in the northern region of Kerala in March 1987. The other units (SEU-South and SEU-Central) were set up about a year and a half later in August 1988 with Dutch support. There is also a small coordinating office (CO) in Trivandrum which is also concerned with institutional aspects of the programme and integration. Although the Socio-Economic Units (SEUs) are directly funded by the donors, they are responsible to and work closely with the Kerala Water Authority. Each Unit covers a project area with a current population of 400,000 to 450,000. Work in one scheme (Cheekode II (7 panchayats) has not yet started pending final approval.

A Co-ordinating Committee headed by the Managing Director of the KWA meets every 3 to 4 months. The Committee oversees project development (both hardware and software) and solves problems related to both software and hardware implementation. The SEU staff are grateful to their many colleagues within KWA for their support and guidance.

## SUMMARY OF THE SIX MONTH REPORT

1. The Socio-Economic Units' first annual Plan of Implementation for Phase II was approved by the Coordinating Committee as of 1 April 1991. This report covers the first six months of the year (1 April to 1 October 1991). The report has been prepared together with all three Units and several colleagues in the KWA. Now that the planning and reporting periods are at last synchronized, it is possible to compare our plans for each period with the actual activities and expenditures.

2. Significant activities in each scheme for the reporting period appear in pages 5 to 7. Appendix 1 contains a draft plan for institutionalization. This will be revised. Appendix 2 shows the list of visitors/training after which comes other background information. The last appendix contains revised 6-month plans for the SEU(North) and the Coordinating Office. These plans were revised because of the late finalization of the agreement between the Governments of India and Denmark, as well as some rephrasing of activities. For SEU(Central) and SEU(South), the rephrasing in activities relates mainly to the sanitation components and thus it was not thought necessary to revise their whole plans.

3. Socio-economic activities started more slowly this year than had been planned. The district elections were followed by the very long national election campaign and then a change of the State Government. These elections campaigns disrupted field activities substantially. In addition, the long delay in the finalization of the agreement between the Governments of India and Denmark meant that the Northern Unit's activities have been substantially disrupted. Nonetheless, beginning in August, the momentum of work has picked up again, with some interesting developments in the programme. With hard work we hope to complete the year approximately as planned.

4. There are now more than 170 functioning Ward Water Committees, each serving an average population of 2000 people. This voluntary group of 7 people organizes reporting of leaks around the standpost, local education activities, the sanitation programme. In their present form they are still fairly new. In the Central region, Ward Water Committees have been operating more than a year; in the southern region less than a year; in the North, where water is about to come into the schemes, they are being reorganized. The Ward Water Committees are one central focus of activities. For example, they were involved in the chlorination of more than 10,000 open wells during this reporting period. The dissemination of a study on the bacterial quality of well water soon is meant to initiate a cooperative campaign for improving the conditions around wells and stimulating self-managed chlorination activities in Kerala. The Ward Water Committees, government departments and NGOs will collaborate in this. The household sanitation programme ('latrines-with-education') is largely managed and executed by the panchayats and ward water committees. It is now active in 10 panchayats. By May 1992 it is hoped that they will have completed 10,000 to 12,000 latrines in all. The school health club programme has expanded to 46 schools. Other special education programmes continue and are described later.

### Danida-supported schemes

5. In the northern region, it is expected that trial runs will be undertaken between December 1991 and April 1992 for the three Danida-supported schemes, although there are still some delays.

6. In the three northern schemes, the SEU(North) changed the planned location of some standposts for technical reasons and checked the coverage of the current design and proposed extensions. A new 'user-friendly' design for a standpost had been produced earlier. This has a larger base and higher tap point. These standposts are now being set up with the help, in some places, of the community. In the Eddapal scheme, the Unit has also launched its experimental household sanitation (latrine-with-education) programme. The subsidy is Rs 650. only; and this may eventually be reduced. This 'minimum input' activity aims at lower middle income groups and is meant to complement the high subsidy programme for poor people. With respect to general health education, it is interesting to note that even during the delay in finalization of the GOI-Danida agreement, some activities continued through colleagues and trainees in the Health Department and NGOs. Eight temporary field workers have been brought in.

### Netherlands-supported schemes

7. Technical developments related to the Netherlands-supported schemes included:

- approval of 4 revised estimates by GOI (Vakkom-Anjengo, Cheriyanad, Thrikkunnappuzha, Koipuram);
- preparation of a new design for the distribution net of the Kundara scheme, with the SEU(South) participating;
- decision to implement the Pavaratty scheme in stages, beginning with 6 panchayats, laying of some pipes and setting up KWA and SEU teams for surveying activities;
- trial runs in Vakkom-Anjengo, Cheriyanad, Koipuram.

8. For the Dutch-supported SEU programme, this reporting period saw:

- close coordination with IPD in the survey and mapping of the Kundara scheme;
- planning of activities with the KWA for the large Pavaratty scheme, initiation of some small mapping and of the baseline survey;
- launching of the new round of the sanitation programme with a high level of community self-management including contributions from the panchayats for the programme;
- determination of the minimum costs of latrine construction based on careful comparisons and optimum use of local materials;
- expansion of the number of school health clubs;
- improvement in participatory training methods, expansion of Ward Water Committee training activities and increased WWC involvement and management of many programme activities;
- identification of voluntary standpost attendants who are involved in maintaining cleanliness around the standpost, fault reporting and community education;
- initiation of the 'use and maintenance' activities.

9. All SEU professional staff have been involved in two planning exercises meant to chart the possible course for sustainability of many SEU components. (See appendix 1 for a draft of part of this.) In addition, as planned, each professional SEU staff member attended one training activity outside Kerala. For the programme officers, these were short courses in participatory training methods given by PROWESSS (3 staff attended) and by PRIA (3 attended). The results of this have been gratifying. During this period the Executive Coordinator was involved in organizing the Kerala branch of the International Union of Health Education which, among other things, will be involved in the well water campaign. In the period from March 1991 to March 1992 there are (1) a Danida country evaluation of water projects; (2) a Dutch review mission (3) a Danida review mission, (4) preliminary and full-scale Dutch I.O.V. inspection service missions. Please note, it is strongly requested that from now on, each mission, including the IOV, give a clear briefing on arrival and debriefing to KWA officials before their departure.

10. There were several transfers among KWA colleagues: Mr. M.P. Mohan took over as Technical Member; Mr. Veeran Pillai came as Chief Engineer of IPD; Mr. Yacoob Sait was transferred to Superintending Engineer based in Trivandrum; Mr. B. Punnooran became Superintending Engineer based in Kottayam; Mr. P. Ramachandran Nair was transferred as Deputy Chief Engineer to the office of the Chief Engineer (South); and Mr. Sukamaran became Superintending Engineer in Quilon. Several Executive Engineers were also transferred. A new post of Deputy Chief Engineer in charge of the training unit has been established.

11. In each reporting period it seems that there are more socio-economic activities that are carried out under the direction or guidance of KWA colleagues. We are thankful to our KWA colleagues at the Trivandrum Headquarters and in the PMU Unit, at the regional and circle level, and colleagues working in the schemes and at IPD for their continuing support and collaboration.

The following report is divided topically in relation to the SEU project objectives that are shown in the 'Background' section, page ii.

## ACCESS TO PIPED WATER

### Planning of water schemes

12. At the beginning of 1991, the initial SEU(South) mapping of one panchayat in the Kundara scheme revealed that a substantial proportion of the population would remain unserved. This was discussed with the IPD (the Investigation, Planning and Design Division). It was decided that a revised estimate was essential to provide better coverage. The IPD, at its own initiative, decided in May to prepare new, detailed maps of the whole scheme (7 panchayats, more than 200,000 people) with hydraulic calculations. IPD completed this in just two months (more than 700 kilometers of roads and paths). In July and August, the SEU fielded a team that added all houses and landmarks on the IPD maps. The SEU teams and IPD staff worked in close cooperation; it was a rewarding experience. Now IPD has finished a computer design of the maximum possible extensions to the scheme. This distribution net will now be reviewed and probably cut back, with a view to saving funds while, at the same time, providing the optimum access to piped water. To IPD and P.H. Divisions' sincere thanks are due for speedy, careful work. In the Kundara scheme, as suggested by IPD, the SEU has deferred site selection of standposts in order not to raise expectations of the community before even the revised estimate is submitted.

13. In the large, 16-panchayat Pavaratty scheme, the KWA has decided to implement the project in stages beginning with 6 panchayats. A revised design had been prepared by the Engineering College in Trichur. In July 1991, the IPD and PH Divisions decided to proceed with an engineering survey and socio-economic mapping in these panchayats. For this, the KWA is providing surveyors and a full-time Assistant Engineer while the SEU(Central) is providing the services of 3 surveyors and the Unit's draftsman. Work will include checking original maps, adding roads left out, completing hydraulic measurements and entering population (houses) and landmarks in the maps. Some pipes are already being laid in the first 4 panchayats. Even though there still exists a large stock of pipes as a result of the GOI/RNE prefinancement, the KWA has taken the decision not to continue with other contracts to lay pipes pending the outcome of this survey, in order to ensure the best design. A programme associate will be hired by the SEU for this large scheme. The KWA has kindly agreed to provide accommodation for the SEU(Central) sub-office in the newly constructed building.

14. In Pavaratty the SEU also started its baseline survey. The first data (part of the 10% sample survey of 1 panchayat) showed that 2 in 5 families have seasonal water shortage, while one-half of the wells run dry in the summer. As expected, most people say they prefer to drink water from an open wells. Two-thirds of the families are without latrines of any type. Interesting was the higher morbidity data of 37% of the households (now that we have reformulated the question to: Was there anyone with loose



## DATA SHEET AS OF SEPTEMBER 1991

Water scheme No. of panchayats/ populat'n('81)	status of mapping/site selection	trial runs/ partial commiss'g	latrines built	to be built by 5/92	Activities with community/ technical progress
Pavaratty 18/~480,000	joint KWA/ SEU team	1992 4 panch't			Eng. College did design. KWA/SEU survey teams being set up, check design & add population data. Soae pipes being laid 4 panchayats. KWA giving office for SEU team. SEU conducting S-E baseline survey.
Mala 6/136,000	completed	completed as per original design	1,437	2,625	Revised estimate in GOI. Household latr/sanitation in 3 panchayats. 32 v.active WWCs. SPA training. NGO training & links. Ed'n activities related to start-up of scheme. Leak reporting/U&M activities. 19 school health clubs. women asons/acts. ~5,000 wells chlorinated with WWCs/NGOs.
Mattika- Firka 10/231,000	completed	completed as per original design	600	2,600	Revised estimate with GOI. Household latr/sanitation 3 panchayats. 33 v.active WWCs. Ed'n 4 panch's activities for san'n/start-up of scheme. ~700 wells chlorinated with WWCs/NGO. Fly control camp'n. Some standpost attendants, limited, in part by low cover- before revised estimate.
Vakkom-Anjengo 6/134,000	completed	finishing	641	989	Revised estimate approved by by GOI. Household latr/san in 3 panchayats. 43 functioning WWCs. SPAs in 1 panch't. Ed'n acts for start-up of scheme all panchayats. ~5,000 wells chlorinated with WWC/PHC/ICDS. NGO training/links. 24 school health clubs. Women asons. Special social features of pop'n.

## DATA SHEET AS OF SEPTEMBER 1991

Water scheme No. of panchayats/ populat'n('81)	status of mapping/site selection	trial runs/ partial commis'g	latrines built	to be built by 5/92	Activities with community/ technical progress
Thrikkunna- puzha 1/2 panch't/ 11,000	completed	completed June '88	146	954	Revised est. approved by GOI. Pilot area for U&M, repairs/fault reporting, latrine constr'n in water- logged soil, drainage at stand- post. SPAs. V. active community
Kundara 7/160,000	maps completed by IPD. pop data added by	1992 partial	589	41	Revised est. being prepared by KWA with SEU/TLO. 31 functioning WWCs. Household latrines/san in 1 panch. Some community ed in 3 panch.
Cheriyamad 1/20,000	completed	completed 1991	500	200	Revised estimate approved by GOI. New nousehold latr/san & education activities started.
Koipuram 1/24000	completed	complete 1991		joint funding	Revised estimate approved by GOI. Some jointly-funded latrines with SEU education/ participation strategy to be built.

## DATA SHEET AS OF SEPTEMBER 1991

Water scheme No. of Panchayats/ populat'n ('81)	status of mapping/site selection	trial runs/ partial commis'g	latrines built	to be built by 5/92	Activities with community/ technical progress
Eddapal 3/127,000	completed & standposts being set up	Dec. '91- Mar '92		1,500 in new Minimum Input prog.	O&M staff sanction expected soon. 8 active WWCs, others being reorganized. General health ed'n through other agencies. Chlorination in 1 panchayat thru NGOs. NGO/ departmental links. New 'user-friendly' standposts being installed with community participation.
Golacherry 3/171,000	completed	Jan-Mar 1992		~1000	O&M staff sanction expected soon. 10 WWCs active; others being reorganized. Demonstr'n latrines completed. Exp. with production low-cost bricks. PHC staff training. NGO/department links.
Cheekode I 3/56,000	Completed	Dec '91	2224	~100	O&M staff sanction expected soon. Two panch in Cheekode II were selected in '88 for household latrsan prog. on assumption Ch.II would be approved. Work now winding down in these. Health Ed thru Health Dept/NGOs. Systematic work on interlinking with existing schemes.

15. A Danida-supported consultant (from the Indian Institute of Technology, New Delhi) is reviewing the distribution system of the northern schemes, with special attention to Kolacherry. The draft report is expected soon.

16. The SEU staff is helping to deal with the problem of interlinking existing schemes to the new Eddapal scheme. Interestingly, this involves discussions with the community about the elimination of some older, misplaced or redundant standposts.

17. There has been some discussion about possible institutional support of the IPD (Investigation, Planning and Design Division) for improved investigation and design of water schemes. This might include, for example, the provision of good base maps, some equipment and transportation. The SEUs support this initiative, not only because this could lead to improved design for new schemes, but also such an idea could help institutionalize design strategies which take account of population distribution.

18. With respect to scheme design, we have the following tentative observations based on our experience over time:

- for high density populations along the flat seacoast (say, above 1,300 people per square kilometer), it may not be necessary to map each dwelling to obtain a 65% to 80% levels of coverage by the water scheme. For example, the population coverage of the Vakkom-Anjengo scheme was 64% to 78% as per the original design. To reach high levels of coverage (say, 90% or more), good maps are still needed.

- schemes with about 1000 people per square kilometer, particularly in hilly areas, should be mapped carefully, including full population distribution information before design of piped water supply.

- for low population densities (such as 600 to 800 people per sq.km.), piped water schemes become quite expensive per capita or not as suitable for designs aiming at high population coverage. If schemes are to be implemented in low-density areas, a thorough initial mapping of roads, paths and population would enable costs to be saved and the level of coverage to be objectively identified beforehand.

#### Site selection and standposts

19. The siting of standposts is meant to ensure access to piped water particularly for poor people, and determine the location of the standpost for ease of use, drainage and maintenance. Site selection is largely completed except in Kundara and Pavaratty schemes.

20. A recent government order states that Rs 875 per annum should be charged to the panchayat for each standpost. Thus good site selection will mean optimum population coverage for lowest cost.

This site selection process, as done by the SEU, has essentially five steps: (1) mapping; (2) identifying, in discussion with people who live at the site, the best location according to fixed criteria; (3) getting panchayat approval and release of land from the owners, if needed; (4) asking PH Division about the technical feasibility of the standposts; (5) resiting standposts which are not technically feasible. No matter how effective this process might be, a challenge would be to simplify it so that it would require less time and manpower to execute. An interesting challenge surfaced in this reporting period: With the recent series of elections, new local leaders have come who, in some cases, demand that standposts (shown in the plans that have not yet been executed) be relocated. Their complaints are dealt with by the SEUs in public meetings at the panchayat level where, in a public setting, complaints are usually withdrawn.

21. A new design for the standpost is being used in the northern region. This is 'user-friendly', with a large-diameter base and higher tap-point. Experience will hopefully show that the higher tap level will eliminate some of the vandalism of taps (since these are more convenient to use). The large base will ensure better drainage. The erection of this large, heavier standpost requires a different organizational strategy. Now field organizers are working with the community to prepare sites for the platforms and help set the standposts up. Some casting in situ may also be organized.

### Trial runs

22. SEU support for trial runs, where this has taken place, has been limited to WWCs informing the community about the trials, expected breakage and warning them against drinking the water. In Vakkom-Anjengo and Mala, there was some reporting of leaks to the local KWA office. SEU(North) is collaborating with PH engineers in preparing more extensive plan for trial runs which will begin in December.

23. Experience has shown that when spare parts are missing (such as valves) or interlinking with older schemes has not been properly executed, then the ability of the community to report major faults can outrun the capacity to respond.

### Household connections

24. A recent World Bank study for Kerala has suggested that as few as 5 household connections could, under certain conditions, cross-subsidize a standpost. Theoretically, this is equivalent to only 1 family in five having a household connection (assuming a low coverage of 20 families per standpost). One challenge to generating such income is the systematic and rapid implementation of house connections. The Ward Water Committee could have an interesting role to support KWA through working for the efficient installation of household connections. Some possible candidates for SEU/WWC involvement in house connections are schemes which have recently come on such as Vakkom-Anjengo, Cheriyanad, Mala, Koiburam.

25. It should be noted, however, that many bilateral schemes were designed and approved on the basis of conservative assumptions about (a) per capita use of water in house connections, (b) water loss in the operation of the scheme and (c) institutional use of water. Thus colleagues in the PH Division are requested to provide guidelines about the procedure for each scheme, including the number of household connections which are feasible. Furthermore, at this time, water charges are around Rs 1 per kiloliter and production costs may be more than twice this amount. Therefore, at present the KWA would theoretically lose money by expanding the proportion of household connections. Every means of support should be given to the KWA to help raise the water tariffs.

#### Community involvement in 'U & M'

26. 'U & M' refers to improved use and maintenance of water systems by the community (as contrasted to Operation and Maintenance which is more a technical mandate for large piped water systems). This year saw the beginning of systematic fault(leak) reporting and activities for improved care and maintenance around the standpost. Activities were concentrated on the first schemes to have water. Experience thus far indicates that systematic reporting via the Ward Water Committees results in more timely repairs, improves relations between the community and the KWA, and that the WWC can serve as a buffer between the community and the KWA.

27. Thrikkunnappuzha scheme was selected for a pilot study of 'U & M' activities, even though a very small scheme, because it has been operational since 1988. In five wards, about 140 standpost attendants have been selected. They are responsible for the standpost site. WWCs transmit the fault reports to the KWA local office. WWCs also have a monthly programme of cleaning around the standposts. This, and similar work in the Mala and Vakkom-Anjengo schemes, have demonstrated that systematic and accurate reporting for the community is possible. Small stores, for example, of taps and small pipes, should be available at the local KWA office to enable KWA and licensed plumbers to respond to leak reports without unnecessary effort.

28. In Thrikkunnappuzha, ten community members (5 men and 5 women) have recently been trained to make simple repairs at the standpost and have been given a tool kit. This activity is being monitored so that we may learn from the experience. For example, it has already been observed that the composition of the tool kit can be simplified and its cost reduced. The next part of the activity in this scheme focuses on improving drainage at the standposts with community participation.

29. In the Mala scheme, the WWCs and SPAs prepared for KWA a report on repairs and problems with the Jayson taps. Only one company is now producing these 'waste-not' taps in India and the quality is uneven. KWA staff have been negotiating with the company about this.

30. These education and leak reporting activities are yet to start in the areas where water has not come (such as Kundara, the three northern schemes) and areas where very few standposts are operating as yet (such as 2 panchayats in the Mala scheme and part of Nattika).

Ward Water Committees: present and future

31. The Ward Water Committee (WWC) has been mentioned several times. There are now 177 Ward Water Committees functioning in 22 panchayats. The WWC is a group of 7 volunteers in a ward, including the ward member (an elected panchayat officer), members from active ward-based institutions such as the school, PHC, women's groups, and at least 2 women. The convener is a WWC secretary who is selected by the group and is usually not the Ward Member. The WWC is not completely apolitical; however, its membership usually guarantees that all perspectives are represented.

32. The range of activities undertaken by the Ward Water Committee are listed in Appendix 5. However, the particular activities undertaken by each WWC reflect the status of the water scheme, the development of the sanitation programme, specific local environmental and health issues as well as the interests and motivation of each group. They have been functioning more than a year in the central region; less than a year in the south and are being reorganized in the north. The number will increase. Their work, which has become more systematized, will also improve. They have reached a point where further development should not be attempted without having a longer-term plan in mind.

33. Therefore the SEU staff met to prepare a draft long-term plan for WWCs. The starting point was the belief that the current high level of action in some of the Ward Water committees is probably not sustainable in the long run. Therefore we developed a draft set of minimum activities which the Ward Water Committees might be able to undertake with minimum outside support. These are briefly listed in Appendix 1, page 2. Then we made a tentative plan for longer-term sustainability which has several internal checks. This is shown below. Comments are welcomed.

- Oct-April:           Review and improve work of WWCs
- (1) KWA staff to visit and critically review WWC work. Feedback to improve the work from KWA.
  - (2) A reporting system of WWC accomplishments (not just activities) to be set up. Periodic reports to be given to the KWA on these accomplishments.
  - (3) Review teams from Danida/RNE to be asked to examine WWCs critically.
  - (4) Reporting back to Coordinating Committee in spring 1992.
- Mid-1992           (5) Coordinating Committee to be asked to issue a note to about the WWCs, the reporting of leaks and so on. This can serve as some form of recognition of the WWCs.

late '92 (6) Panchayat elections, once in 5 years. The SEUs must plan how the WWCs can go through the elections keeping their activities in tact. If this succeeds, then go to the next step (7).

begin '93 (7) If KWA finds the WWCs useful, based on the preceding steps, then it would sanctioning of some posts for personnel to serve as links to the community and WWCs. While this is being done, KWA might request from donors either a winding down grant or grant for dissemination of the structure to other schemes.

### Standpost Attendants

34. There are more than 1,100 standpost attendants in 12 panchayats. They are tap beneficiaries, usually women, who live near the standpost and are willing to be responsible for its upkeep, cleanliness and for some public education. There is one SPA for a tap; and they are nominated by the Ward Water Committee. SPAs receive half to one full day's training. In a few panchayats, for example, in the Mala and Thrikkunnappuzha schemes, KWA staff have themselves given training.

35. In the spring of 1992, this SPA component should be assessed with a view to its effectiveness and sustainability, particularly in light of the mixed experience with handpump attendants (who are somewhat similar to SPAs) in other parts of India.

### Traditional water sources

36. More than 10,000 open wells have been chlorinated in 13 panchayats during this period. Active local groups have done the chlorination including the WWCs, ICDS staff, youth or women's groups, health department trainees. In view of the higher incidence of serious water-related diseases at the start of the monsoon, this is a crucial time. The challenge for the future is to stimulate self-managed chlorination, as well as improved cleanliness around the wells.

37. Keralites, like people elsewhere, prefer to drink water from their open wells. It was with this in mind that the SEUs commissioned the State Pollution Control Board to do a rapid study of the bacterial quality of well water in 150 wells where the SEUs operate. Another purpose of the study was to check for cross-pollution from latrine pits to wells. No cross pollution was identified probably because the open well water, in general, is contaminated with fecal coliforms. There are so many possible causes of pollution that it was not possible to isolate any particular factor or set of factors, except for the fact that the open wells were all polluted while the closed wells were not. This finding is similar to that in other parts of the world. See appendix 3 which gives a brief summary of the study.

38. The report is about to be published. It has already attracted



considerable attention. For example, the week after a popular description about the study appeared in the SEU newsletter, an article appeared about it in the Indian Express newspaper. Initial reaction among some professionals (who are generally unfamiliar with literature about quality of open wells) is one of disbelief or even shame that Kerala wells are not better. We hope to start a campaign about this together with other agencies and NGOs. One challenge is assuring the quality of bleaching powder.

## SANITATION--LATRINES-WITH-EDUCATION

### 75% subsidy programme

39. In total, 6,557 latrines have been constructed in 12 panchayats. By the end of the year, we hope a total of 10,000, to 12,000, will have been constructed in 20 panchayats. For the SEUs this is not only, or even mainly, a construction programme. The main features of this household latrine-with-education programme are:

- There is an important education element carried out through initial campaigns (with camps, exhibitions, films, meetings and so on), special meetings with beneficiaries, through the masons during the construction, through health personnel and by the follow-up monitoring.

- The programme is carried out by the panchayat, the Ward Water committees and community working together with the SEUs. The strategy emphasizes community leadership and responsibility for implementation. Without this high level of community participation, the programme could be implemented as we have less than 1 field staff per 20,000 people. The panchayats are also beginning to contribute for the programme. The amounts of their contributions are shown in the following table.

- The beneficiaries contribute 20% of the cost of the latrine (with the exception of 2 panchayats) and they dig the pits. They usually also transport the materials. They are also required to attend educational meetings about the use, maintenance and construction of the latrine.

- The double-pit, pour-flush latrine is used, as recommended by the State Sanitation Cell, and also used by the World Bank project and recommended by CAPART.

40. Appendix 4 contains an excerpt of the Sanitation Strategy which is the basic 'map' or 'constitution' that the programme follows. This strategy describes the roles of the community and steps of the programme in each panchayat.

41. The programme faces several challenges. First, it has a strong education and follow-up component which we find to be quite successful. This is little recognized outside the project area. Even some people who visit think that the clean latrines they see must be special 'show-pieces' presented only to visitors. However, this is not the case.

42. The programme at the start-up and negotiation in a panchayat is

still too time consuming for the SEU staff. To solve this problem, we plan to have a major in-house review in January or February to review all the procedures and revise the sanitation strategy.

43. Another challenge relates to beneficiary selection. The programme requires a 20% financial contribution before construction. There are also rather strict guidelines to ensure that this is a poverty-oriented programme. However, we still have more beneficiaries than we have funds. Therefore the WWC and SEU staff have the task of selecting among the potential beneficiaries. This is time-consuming and it is unproductive time. One approach is to keep the costs of the latrines as low as possible, given the design so that more latrines can be built. We are working as hard as possible to do this by using local materials. The reliance on local materials and people explains, to a great extent, the cost variations from one location to another. A second approach to stretching the funds available is to change the design. We are now doing relative costing on a single-pit latrine, although this is not the model advocated by GOI, the State Sanitation Cell or the World Bank in Kerala. Another approach is to reduce the features of the latrine which are subsidized. For example, the beneficiaries could be made responsible for the door and roof. Or a cheaper pan could be used. This is highly unpopular in the panchayats since other programmes (albeit with less coverage) provide the whole facility. Building the facility only to plinth level has been suggested; however, that was tried in the 1950s and failed. Furthermore, we find that building only to the plinth level would require much more staff time to manage the programme at the local level so as to ensure that the superstructure is built. It was on this point of local management and sustainability of the field staff that the earlier programmes did not succeed. Therefore we have rejected this idea. A complementary approach would be to have state donations, as in Tamil Nadu which has a strong State policy for low-cost sanitation. This is, indeed, perhaps overdue in Kerala.

44. The problem of having to select among beneficiaries is, at root, a question of sustainability given limited financial resources. The preceding paragraph should show that we are treating this issue very seriously. This issue will, of course, be dealt with in subsequent reports.

## CONSTRUCTION: 75% SUBSIDY LATRINE-WITH-EDUCATION PROGRAMME

SCHEME	PANCHAYAT	BUILT BEFORE 1991	LAST 6 MONTHS	NEXT 6 MONTH	COST RUPEES	BENEFICIARY CONTRIBUTION Rs. 20% + pit digging	PANCHAYAT CONTRIBUTION
MALA	Mala	1188			1520		
	Vellangalore		245	1255	1650	150 + 250	125,000
	Puthenchira			750			35,000
	Poyya			750	1520	370	25,000
NATTIKA	Vellapad		100	650	1800	250 + 250	50,000
	Kaipamangalam			500	1900	380	
	Edathururthy	500		500	1970		
	Engandiyoor			500	1850		
VAKKOM-ANJENGO	Anjengo	500		500			
	Vakkom		65	425	1940	400	15,000
	Kizhuvilam			650	1920	475	15,000
CHERIYANAD		500		200		360	20,000
THRIKKUNNAPUZHA			146	854	2070	500	500
KUNDARA	Kundara	500	89	61	1950	375	15,000
KOLACHERRY	Mayyil			500	2200-2400	400	
	Kuttiator			500			
	Munderi			500			
CHEEKODE	Feroke	1163		180	2065		
	Ramanattakara	1061			1984		

### Studies and investigations

45. Two staff papers were completed during this period. In the northern region Mr. Isaac John completed a study of the leaching of latrine pits. It shows, for a small sample, that given our current design, latrines can still support relatively high loads (in this case up to 12 family members) after more than 3 1/2 years of use without having to be emptied. The deposit in the leach pit is friable and easy to dig out.

46. In the southern region, Mr. George Varghese completed a study to compare the design, acceptability and costs of 9 latrine models. Costs were also compared for different soil conditions. One of the areas, Thrikkunnappuzha, is typical some of the water-logged parts of Kerala. For this area, the depth of pit and other design features were reviewed with representatives from Sulabh International and Gandhigram. A consultancy was undertaken by the Socio-Economic Research Council of Kerala to investigate the beneficiary contribution and subsidy system used in the SEU programme. This study was not carefully executed (for example, sampling procedures did not follow the pre-agreed plan). Although flawed, the study still presents some useful points for discussion within the SEUs.

### Minimum Input Programme- 'MIP'

47. There is a relatively high demand for latrines, at least in most of the areas where the SEUs work. This seems to be due to several factors, only one of which may be health-related motivation. First, there is a long history of public involvement in latrine construction, dating from the 1950s. Field workers find that the latrine is desired particularly by women for whom it affords privacy. In a recent report it also stated that the latrine raises, or is perceived to raise, property value. Because of the relatively strong demand, SEU(noth) has decided to experiment with a low-subsidy ('Minimum Input') system in the Eddapal scheme.

48. This would be a complement to the existing high-subsidy programme as the Minimum Input Programme (MIP) has higher income limits for beneficiaries (about Rs. 12,000, per annum versus Rs. 6,000, in the high subsidy programme). In the Minimum Input programme, a subsidy of Rs 650, would be provided in the form of hardware (trap, pan, and so on). The local masons would be trained. Education activities carried out by SEU with the Ward Water Committees. The theme of the programme is: "Build your own latrine for about Rs 2,000.". The 'MIP' programme will be followed by a higher subsidy programme; although it is hoped that some of the prospective beneficiaries of the high subsidy programme will be picked up by this programme beforehand. Several people have told us that this 'MIP' approach will not work. However the initial response at the introductory meetings has been good.

## EDUCATION AND TRAINING

49. Education and training activities, with community participation are central to the SEU programme. All are so tightly linked into the programme that it is often difficult to describe them separately. Both are the petrol which fuel the programme. Examples are the training and education activities in the household sanitation programme:

Informal but important training takes place during the initial negotiation with the panchayat personnel leading to a contract which includes the sanitation strategy.

During the 2 to 3 month preparatory stage, sanitation mobilization is organized, usually by the WWC with the Field Organizer. This includes filmshows, the recording made of the street drama, exhibitions, general meetings and so on. Emphasis is given to linking water with sanitation. Criteria for beneficiary selection are also spelled out at the meetings.

There are three organized classes for beneficiaries. This deals with technical aspects with the help of drawings, dangers of open air defecation, use and maintenance of the latrine, participation and cost.

Masons are trained, not only in construction but in how to communicate about maintenance and health aspects.

In the southern region, women were trained to construct certain parts of the latrine--in a mason's training programme meant to raise their income. In the central region a few women who were trained earlier by the SEU are working independently as masons in the Valappad panchayat sanitation programme. Twenty-five women are now going for a course in masonry by Costford, an NGO. They will also be trained in simple brick making and cement block production.

The SEU office superintendent in the southern region provides short training to panchayat personnel in budgeting and accounting for the programme.

The follow-up monitoring of latrines, after completion of the programme is undertaken by WWCs or other people in the panchayat. This is, of course, a monitoring effort, however, it also seems to be an effective continuation of the education work for good use and maintenance of latrines.

50. The last, interim report (January to June 1991) dealt extensively with health education. There are a few elements of that report which are updated in the following paragraphs.

51. In four panchayats of the Mala scheme where there are few other collaborating groups (such as ICDS), attention is given to women's clubs. Meetings and training are conducted to stimulate their involvement in SEU activities. These clubs have started model vegetable gardens with the help of the SEU and agriculture department.

52. There are now 46 school health clubs, active in 11 panchayats. One to 2 teachers are in charge of the clubs with 2 student leaders and a WWC member. The programme is meant to promote hygiene habits among all the students in the school. The school health programme is becoming richer as the range of activities expands. During the past couple of months, these new activities have included: a 'Footwear for all' campaign undertaken with the Parent-Teachers group, a 'Clean up our shopping street' activity which involved local shopkeepers. SEU has also recently given training to teachers who lead the clubs. Steps are now being taken to print the school health book. The Education Department is also being consulted about this.

53. An orientation workshop was held for primary health centre staff of three panchayats in the Kolacherry scheme. More such programmes have been requested, especially to help these personnel conduct similar activities related to water and sanitation.

54. The list of organizations with whom SEUs collaborate in the programme is now rather long, including: ICDS, PHC, NSS, mahila samajom, balawadi/anganwadis, schools, local clubs, blocks, nirmithi kendra and so on. The types of collaboration are almost as varied. This is largely determined by the particular groups which are locally active and the status of the water/sanitation programme. In addition, during this reporting period, SEU staff have given classes for block staff, for local organizations, for the State Institute for Rural Development and have spoken several times on AIR. These links are sanctioned at the State level.

## PERSONNEL, STAFF TRAINING

55. The joint Danish-Dutch Review Mission of 1989 had suggested that one field worker be assigned to each panchayat. There are, however, 73 panchayats in the bilateral schemes, each with a population of 20,000 to 25,000. We have decided to limit the number to 1 temporary field organizer for every two to three panchayats. During this period new field organizers joined the northern unit and two were added to the central unit for work in the Pavaratty scheme. With a total complement of 23 temporary field organizers and one new programme associate about to be hired to organize the activities in the large Pavaratty scheme, we do not expect that the staff will grow in the future.

56. Each of the 11 professional staff of the SEUs has had an opportunity to undertake one training programme either related to management or participatory training. One of the leaders of the participatory training programme held by PRIA has also worked with the whole SEU team on two occasions. The first was to help staff plan a highly participatory training activity for 6 Ward Water Committees. This was a good experience in applying what had been learned. Then he returned to help us develop long-term planning for the Ward Water Committees. The results of the training and visits have been gratifying, leading to improved training and communication methods in our work. The field organizers visited the RUHSA project in Tamil Nadu during this period; however the experience was of limited value.

57. The Danish organization, Denconsult, undertook an evaluation of all the drinking water projects in India at the request of DANIDA. Extensive comment to their draft report were prepared by the STA and SEA.

58. This year there have been several serious staff illnesses and accidents.

59. As agreed between the Netherlands and Danish Embassies, all SEU staff will follow the rules and regulations as formulated by DANIDA.

60. One theme which has not been dealt with in this report is inter-agency collaboration at the state-level. This will be dealt with in the next report, particularly as changes in the state government are taking effect rapidly.

FINANCEExpenditures & Budget

1. As the following pages show, the SEUs underspent against their planned budgets. This is shown on the next three pages, giving the percentage of expenditure against budget. Because of this, the budget for the last 6 months (1 October 1991 - 31 March 1992) has been revised. The revised budget appears, with this request for approval, on the fourth and fifth financial page.
2. The SEUs spent only 18% of their budget during the first six months of the year. The reasons are:
  - a. For the Co-ordinating Office which spent only 39% of its budgeted amount, the main savings were because the collaborative work with the State Sanitation Cell has been delayed. The PASSS payments have been made under line item 2.4 (Inter-Agency Collaboration) rather than 1.2 (Traditional Sources).
  - b. SEU (North) expended only 15%, SEU (Central) only 16% and SEU (South) 14% of their annual budget in the first half of the year. Much of this, for the sanitation programme in particular was due to the unexpected elections followed immediately by the monsoon season, as well as the delay in the finalisation of the side letter. The sanitation activities in all three units are now picking up.
  - c. The planned activities related to traditional sources included the development of wells/springs where piped water can not reach. This has not been initiated and as the revised budgets show, we will not be undertaking this now. Some small funds remain under the line item (1.2 Traditional Sources) for the wells chlorination/clean-up campaign.
  - d. There were unexpected savings in the three units for item 3 (Hygiene Education). This reflects some over budgetting, some delay in field activities but, more importantly, a decision to limit the volume of new printed material and to share costs for activities with the community. This item has also been reduced in the revised budget.
  - e. The line item for Training and Orientation (item 5) shows major unspent amounts. This was once again due to the slow-down in field activities and the heavy monsoon. This item has been cut back in the revised budget.
3. We hope that the revised budget is more realistic. However, please note that the SEUs have not, until the advent of this new accounting system, and the more regular payment procedures from RNE, been stimulated to budget accurately. This six month budget might still be off target; however it should be more realistic than in the past. By next year, the budgeting will be more accurately targeted, barring unforeseen external factors.
4. Unfortunately, manpower costs (line items 7) amounted to 36% of the total expenditure for the first six months of this year and we aim for a proportion of around 20% to 25% in the next six months.



- 5. Line item 8.1 (Office Equipment) for SEU North budget for the next six months includes a computer for use by the STA, as approved by Danida.
- 6. During the reporting period all Units have started using the BOS (Business Operating Software) system for accounting. This has required considerable time, energy and training of staff. There were financial implications as we had to purchase three computers to operate the system.
- 7. At the same time the account codes for the project have been revised in line with the budget shown in the SEU Plan of Operation (1990-1992). We have also developed a new set of internal control procedures which to a large extent codify existing procedures.
- 8. The Office Superintendents/Finance Officers saw their work, and their range of responsibility expand during this period. The four Officers attended a Danida - sponsored accounts seminar. The Unit Officers have been more heavily involved in the sanitation programme. The Office Superintendent in the Southern Unit has developed a training programme for Panchayat Officers in the financial management of funds.

REVISED BUDGET FOR THE YEAR 1991 -1992

The following table shows, in the first row, the original year's (1991-92) budget as approved in the Plan of Implementation. The second row shows the sum of revised budget for the last six months of the year plus the expenditures made during the first six months. (In other words, the second row shows the revised budget figure for the whole year). Numbers are shown in thousands (Rs 000).

	Co-Office	SEU (N)	SEU (C)	SEU (S)
Original Budget	3081.00	5664.00	8151.00	5969.00
Revised Budget	2838.40	4825.00	6031.66	5023.00

FUNDS REQUEST FOR 1 October 1991 - 31 March 1992

- 1. As of 1 October, Danida will provide one-third of the funds for the Co-ordinating Office. This amounts to Rs.546000/= representing one third of the CO budget for the period 1 October 1991 to 31 March 1992. We are requesting via this report, one half of that amount that is Rs.273000/= to be transferred to the Co-ordinating Office via the SEU (North).
- 2. The total amount currently held of Netherlands donations is Rs.5216768.77 The budget for this six months period amounts to Rs.9990463.00 (which is the sum of SEU (Central), SEU (South) and two thirds of Co-ordinating Office budgets). We do not require replenishment until the end of December. A separate request will be sent to RNE in mid-November.
- 3. The Statement showing the current financial position is attached at the end of this financial Statements/budgets.

**SOCIO-ECONOMIC UNITS, KERALA**

Statement of expenses for 6 month period compared with budget (April 1991 to April 1992)

Period: 1 April 1991 - 1 October 1991

DESCRIPTION	ALL SEUs			
	Budget 91-92	Expenses to 1 Oct	% exp	Balance for 91-92
<b>1. WATER RELATED ACTIVITIES</b>				
1.1 Site Selection	102.50	18.74	18%	83.76
1.2 Traditional Sources	550.00	0.00	0%	550.00
<b>2. SANITATION</b>				
2.1 Household Latrines	12260.00	877.96	7%	11382.04
2.2 Institutional Latrines	340.00	1.21	0%	338.79
2.3 Envmtl. Sanitation	350.00	0.00	0%	350.00
2.4 Inter-Agency Collabn.	505.00	152.27	30%	352.73
<b>3. HYGIENE EDUCATION</b>	1200.00	390.31	33%	809.69
<b>4. STUDIES &amp; MONITORING</b>	241.00	53.97	22%	187.13
<b>5. TRAINING &amp; ORIENTATION</b>	665.00	67.67	10%	597.33
<b>6. PUBLICATION &amp; DOCUMENTATION</b>	585.00	153.32	26%	431.68
<b>7. MANPOWER</b>				
7.1 Loc. Staff Permanent	2258.00	1098.11	49%	1159.89
7.2 Loc. Staff Temporary	757.00	242.42	32%	514.58
7.3 Work contracted	179.00	167.68	94%	11.32
7.4 Loc. Consultants	177.00	13.24	7%	163.76
<b>8. CAPITAL COSTS</b>				
8.1 Office Equipment	421.00	188.81	45%	232.19
8.2 Vehicles	568.00	169.23	30%	398.77
8.3 Furnitures	155.00	23.70	15%	131.30
8.4 Transport/Insurance	27.00	7.79	29%	19.21
<b>9. OPERATIONAL EXPENSES</b>				
9.1 Office Accommodation	63.00	16.13	26%	46.87
9.2 O&M Office Equipment	92.00	46.97	51%	45.03
9.3 O&M Vehicles	352.00	141.35	40%	210.65
9.4 Office Costs	612.00	252.35	41%	359.65
9.5 Travel & Accommodation	409.00	119.12	29%	289.88
<b>GRAND TOTAL</b>	<b>22865.50</b>	<b>4202.25</b>	<b>18%</b>	<b>18663.25</b>

Note: Budget figures for 1991 - 92 are those appearing in the annual Plan of Implementation approved for 1 April 1991. The budget for the last 6 months of the year is, however, now revised. See the following pages.

**SOCIO-ECONOMIC UNITS, KERALA**

Statement of expenses for 6 month period compared with budget (April 1991 to April 1992)

Period: 1 April 1991 - 1 October 1991

DESCRIPTION	Co-ordn. Office				NORTH Calicut			
	Budget 91-92	Expenses to 1 Oct	% exp	Balance for 91-92	Budget 91-92	Expenses to 1 Oct	% exp	Balance for 91-92
<b>1.WATER RELATED ACTIVITIES</b>								
1.1.Site Selection	35.00	0.00	0%	35.00	10.00	5.51	55%	4.49
1.2.Traditional Sources	260.00	0.00	0%	260.00	145.00	0.00	0%	145.00
<b>2.SANITATION</b>								
2.1.Household Latrines	0.00	0.00	***	0.00	2950.00	209.46	7%	2740.54
2.2.Institutional Latrines	0.00	0.00	***	0.00	180.00	0.25	0%	179.75
2.3.Envmntl.Sanitatin	0.00	0.00	***	0.00	200.00	0.00	0%	200.00
2.4.Inter-Agency Collabn.	455.00	152.27	33%	302.73	0.00	0.00	***	0.00
<b>3.HYGIENE EDUCATION</b>	625.00	343.72	55%	281.28	175.00	15.78	9%	159.22
<b>4.STUDIES &amp; MONITORING</b>	145.00	30.49	21%	114.51	30.00	12.64	42%	17.36
<b>5.TRAINING &amp; ORIENTATION</b>	90.00	0.00	0%	90.00	125.00	8.57	7%	116.43
<b>6.PUBLICATION&amp;DOCUMENTATN</b>	350.00	95.35	27%	254.65	150.00	35.40	23%	123.60
<b>7.MANPOWER</b>								
7.1.Loc.Staff Permanent	410.00	219.81	54%	190.19	648.00	297.14	46%	350.86
7.2.Loc.Staff Temporary	25.00	0.00	0%	25.00	222.00	95.62	43%	126.38
7.3.Work contracted	0.00	14.65	***	-14.65	50.00	23.17	46%	26.83
7.4.Loc.Consultants	90.00	12.75	14%	77.25	50.00	0.00	0%	50.00
<b>8.CAPITAL COSTS</b>								
8.1.Office Equipment	161.00	125.67	78%	35.33	50.00	0.68	1%	49.32
8.2.Vehicles	0.00	0.00	***	0.00	200.00	0.00	0%	200.00
8.3.Furnitures	5.00	4.01	80%	0.99	50.00	2.71	5%	47.29
8.4.Transport/Insurance	0.00	1.72	***	-1.72	0.00	0.00	***	0.00
<b>9.OPERATIONAL EXPENSES</b>								
9.1.Office Accommodation	20.00	3.82	19%	16.18	18.00	6.90	38%	11.10
9.2.O&M Office Equipment	35.00	10.34	31%	24.66	25.00	20.83	81%	4.67
9.3.O&M Vehicles	70.00	29.38	42%	40.62	72.00	48.78	68%	23.22
9.4.Office Costs	210.00	117.00	56%	93.00	150.00	59.04	39%	90.96
9.5.Travel&Accommodation	95.00	36.91	39%	58.09	154.00	3.34	2%	150.66
<b>GRAND TOTAL</b>	<b>3091.00</b>	<b>1198.40</b>	<b>39%</b>	<b>1892.60</b>	<b>5664.00</b>	<b>846.32</b>	<b>15%</b>	<b>4817.68</b>

Note: 1.Budget figures for 1991 - 92 are those appearing in the annual Plan of Implementation approved for 1 April 1991. The budget for the last 6 months of the year is, however, now revised. See the following pages.  
 2 \*\*\* means deficit or items not budgeted for.

**SOCIO-ECONOMIC UNITS, KERALA**
**Statement of expenses for 6 month period compared with budget (April 1991 to April 1992)**

Period: 1 April 1991 - 1 October 1991

DESCRIPTION	SOUTH Quilon				CENTRAL Trichur			
	Budget 91-92	Expenses to 1 Oct	% exp	Balance for 91-92	Budget 91-92	Expenses to 1 Oct	% exp	Balance for 91-92
<b>1.WATER RELATED ACTIVITIES</b>								
1.1.Site Selection	7.50	1.79	24%	5.71	50.00	11.44	23%	38.56
1.2.Traditional Sources	45.00	0.00	0%	45.00	100.00	0.00	0%	100.00
<b>2.SANITATION</b>								
2.1.Household Latrines	4310.00	266.64	6%	4043.36	5000.00	401.86	8%	4598.14
2.2.Institutional Latrines	60.00	0.96	2%	59.04	100.00	0.00	0%	100.00
2.3.Envmntl.Sanitation	50.00	0.00	0%	50.00	100.00	0.00	0%	100.00
2.4.Inter-Agency Collabn.	25.00	0.00	0%	25.00	25.00	0.00	0%	25.00
<b>3.HYGIENE EDUCATION</b>	100.00	8.19	8%	91.81	300.00	22.62	8%	277.38
<b>4.STUDIES &amp; MONITORING</b>	30.00	4.46	15%	25.54	36.00	6.28	17%	29.72
<b>5.TRAINING &amp; ORIENTATION</b>	150.00	38.26	26%	111.74	300.00	20.84	7%	279.16
<b>6.PUBLICATON&amp;DOCUMENTATN</b>	25.00	1.54	6%	23.46	50.00	20.02	40%	29.98
<b>7.MANPOWER</b>								
7.1 Loc.Staff Permanent	550.00	290.38	53%	259.62	650.00	290.78	45%	359.22
7.2.Loc.Staff Temporary	210.00	58.51	28%	151.49	300.00	88.29	29%	211.71
7.3.Work contracted	84.00	82.50	98%	1.50	45.00	47.36	105%	-2.36
7.4.Loc.Consultants	12.00	0.49	4%	11.51	25.00	0.00	0%	25.00
<b>8.CAPITAL COSTS</b>								
8.1 Office Equipment	10.00	0.00	0%	10.00	200.00	62.46	31%	137.54
8.2.Vehicles	63.00	1.40	2%	61.60	300.00	167.83	56%	132.17
8.3.Furnitures	0.00	0.00	***	0.00	100.00	16.98	17%	83.02
8.4.Transport/insurance	2.00	2.39	120%	-0.39	25.00	3.68	15%	21.32
<b>9.OPERATIONAL EXPENSES-</b>								
9.1.Office Accommodation	0.00	0.32	***	-0.32	25.00	5.09	20%	19.91
9.2.O&M Office Equipment	12.00	3.36	28%	8.64	20.00	12.44	62%	7.56
9.3.O&M Vehicles	60.00	33.25	55%	26.75	150.00	29.94	20%	120.06
9.4.Office Costs	102.00	31.86	31%	70.14	150.00	44.45	30%	105.55
9.5.Travel&Accommodation	60.00	29.70	50%	30.30	100.00	49.17	49%	50.83
<b>GRAND TOTAL</b>	<b>5969.50</b>	<b>856.00</b>	<b>14%</b>	<b>5113.50</b>	<b>8151.00</b>	<b>1301.53</b>	<b>16%</b>	<b>6849.47</b>

Note: 1.Budget figures for 1991 - 92 are those appearing in the annual Plan of Implementation approved for 1 April 1991. The budget for the last 6 months of the year is, however, now revised. See the following pages.

2.\*\*\* means deficit or items not budgeted for.

**SOCIO-ECONOMIC UNITS KERALA**

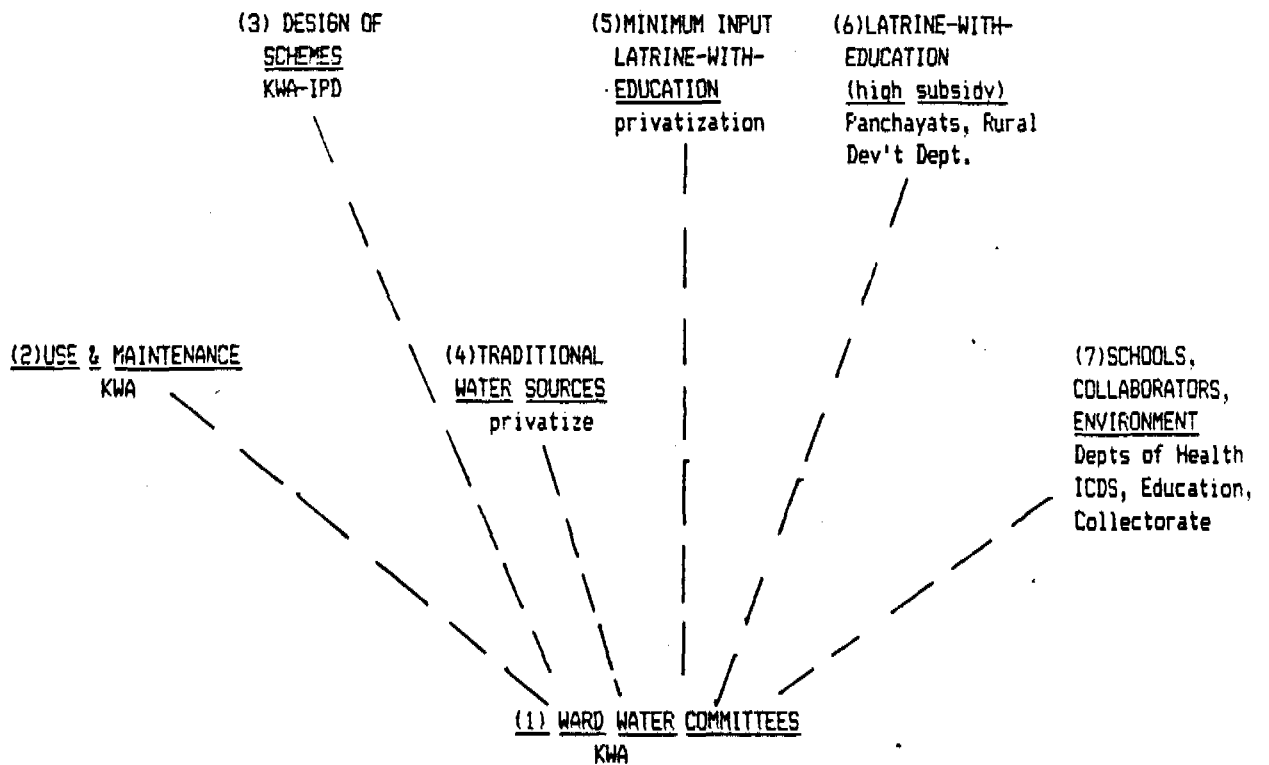
Revised budget for the Period : 1 October 1991 - 1 April 1991

DESCRIPTION	Co-ordn. Office	SOUTH Quilon	CENTRAL Trichur	NORTH Calicut	ALL SEUs
	Amounts in Indian Rupees				
<b>1.WATER RELATED ACTIVITIES</b>					
1.1.Site Selection	0	5,000	15,000	2,000	22,000
1.2.Traditional Sources	0	45,000	0	20,000	65,000
Total	0	50,000	15,000	22,000	87,000
<b>2.SANITATION</b>					
2.1.Household Latrines	0	3,000,000	3,400,000	2,250,000	8,650,000
2.2.Institutional Latrines	0	59,000	400,000	36,000	495,000
2.3.Envmntl.Sanitation	0	50,000	50,000	60,000	160,000
2.4.inter-Agency Collabn.	300,000	50,000	75,000	0	425,000
Total	300,000	3,159,000	3,925,000	2,346,000	9,730,000
<b>3.HYGIENE EDUCATION</b>	280,000	91,000	50,000	117,000	538,000
<b>4.STUDIES &amp; MONITORING</b>	75,000	25,000	50,000	18,000	168,000
<b>5.TRAINING &amp; ORIENTATION</b>	90,000	111,000	75,000	135,000	411,000
<b>6.PUBLICATON&amp;DOCUMENTATION</b>	275,000	23,000	30,000	90,000	418,000
<b>7.MANPOWER</b>					
7.1.Loc.Staff Permanent	255,000	310,000	275,000	362,000	1,202,000
7.2.Loc.Staff Temporary	25,000	35,000	35,000	109,000	204,000
7.3.Work contracted	20,000	127,000	130	120,000	267,130
7.4.Loc.Consultants	40,000	10,000	10,000	15,000	75,000
Total	340,000	482,000	320,130	606,000	1,748,130
<b>8.CAPITAL COSTS</b>					
8.1.Office Equipment	35,000	20,000	10,000	160,000	225,000
8.2.Vehicles	0	30,000	0	200,000	230,000
8.3.Furnitures	5,000	10,000	50,000	29,000	94,000
8.4.Transport/Insurance	5,000	0	5,000	0	10,000
Total	45,000	60,000	65,000	389,000	559,000
<b>9.OPERATION&amp;L EXPENSES</b>					
9.1.Office Accommodation	15,000	10,000	20,000	9,000	54,000
9.2.O&M Office Equipment	25,000	6,000	10,000	8,000	49,000
9.3.O&M Vehicles	40,000	50,000	60,000	57,000	207,000
9.4 Office Costs	95,000	70,000	60,000	87,000	312,000
9.5.Travel&Accommodation	60,000	30,000	50,000	95,000	235,000
Total	235,000	166,000	200,000	256,000	657,000
<b>GRAND TOTAL</b>	<b>1,640,000</b>	<b>4,167,000</b>	<b>4,730,130</b>	<b>3,979,000</b>	<b>14,516,130</b>

**SOCIO-ECONOMIC UNITS KERALA**  
**STATEMENT SHOWING CURRENT FINANCIAL POSITION**

	CO	SOUTH	CENTRAL	NORTH
<b>RECEIPTS:</b>				
Bank/Cash balance as at 1 April 1991	2091202.90	1093645.26	727355.61	728482.60
Instalments received from RNE/DANIDA: (1 April 91 - 1 October 91)	4718240.00			752000.00
Instalments transferred from CO-office to units:		123548.00	1006962.50	4950.00
Bank interest received:	70753.00			
<b>TOTAL RECEIPTS:</b>	<b>6880195.90</b>	<b>1217193.26</b>	<b>1734318.11</b>	<b>1485432.60</b>
<b>EXPENSES:</b>				
Transfer to SEUnits: April - October	1135460.50			
Expenses April - October:	1198400.00	856000.00	1301530.00	846010.00
Balance in hand:	4546335.40	237645.26	432788.11	639422.60

LONG-TERM STRATEGY FOR INSTITUTIONALIZATION



Note: Items above should be read as follows: (2) USE & MAINTENANCE means that the use and maintenance activities will, it is hoped be institutionalized or sustained, in the long-term by the KWA.

The items numbered 1 to 7) above are described in the following pages numbered 1 to 7.

(1) WARD WATER COMMITTEES

Note: The ward has about 20,000 to 250,000 people. The Ward Water Committee is composed of 7 people: the elected ward member (who is part of the panchayat government), at least 2 women, at least 2 staff of agencies active in the ward such as school teachers, ICDS staff, etc.

CURRENT SITUATION:

There is one Field organizer, a temporary staff member for about 10 WWCs. The WWCs which are functioning tend to have high activity rates, although the quality of their work is variable. WWCs are in charge of 'use and maintenance' activities, household sanitation (latrine) programme and many educational activities. Some engineers that work at the scheme level like the WWCs. For many, however, it is not yet well known and perhaps threatening as 'the community' can be perceived as being threatening.

DESIRED SITUATION:

1. Completion of large-scale sanitation programme with the WWCs/panchayat planning and undertaking most of the work.
2. Self-sustaining WWCs in bilateral schemes with 12 functions:
  - (1) accurate leak reporting, (2) cleanliness and improving conditions around the standposts, (3) education with the standpost attendants against water misuse/vandalism of taps. (4) knowledge of the site selection process, (5) knowledge of well chlorination, (6) organizing household connections, (7) advocating for household latrines and sound knowledge of construction, (8) organizing school latrines, (9) personal hygiene education, (10) participation in epidemic control, (11) collaboration with other departments, (12) participation in locally relevant meetings. To support the WWCs, and ensure their value, some posts should be set up in the KWA (see next page).

A minimum systematic training strategy is to be developed for the WWCs. 'Use & Maintenance' and sanitation programmes, similarly, need to be refined (see items 2 and 6 following about this).



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(2) USE AND MAINTENANCE ACTIVITIES

CURRENT STATUS:

These activities were approved on a pilot basis by the KWA Coordinating Committee. They are not, however, well known to most of the KWA staff.

DESIRED STATUS:

Official recognition of the work of the WWCs for leak and some quality reporting, small repairs, systematic installation of household connections and perhaps activities related to revenue.

STRATEGY:

Oct-April: Review and improve work of WWCs

(1) KWA staff to visit and critically review WWC work. Feedback to improve the work from KWA.

(2) A reporting system of WWC accomplishments (not just activities) to be set up. Periodic reports to be given to the KWA on these accomplishments.

(3) Review teams from Danida/RNE to be asked to examine WWCs critically.

(4) Reporting back to Coordinating Committee in spring 1992.

Mid-1992 (5) Coordinating Committee to be asked to issue a note to about the WWCs, the reporting of leaks and so on. This can serve as some form of recognition of the WWCs.

late '92 (6) Panchayat elections, once in 5 years. The SEUs must plan how the WWCs can go through the elections keeping their activities in tact. If this succeeds, then go to the next step (7).

begin '93 (7) If KWA finds the WWCs useful, based on the preceding steps, then it would sanctioning of some posts for personnel to serve as links to the community and WWCs. While this is being done, KWA might request from donors either a winding down grant or grant for dissemination of the structure to other schemes.

## APPENDIX 1

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### (3) DESIGN OF WATER SCHEMES

#### CURRENT SITUATION:

KWA does not want more revised estimates. Base maps, available to KWA to design new schemes, are not very good. New schemes, outside some bilaterals, are designed with distribution nets to follow some roads. Contractors put up standposts without many guidelines.

#### DESIRED SITUATION:

All schemes should be designed with a view to where people live. Standposts should be located carefully with the community to ensure maximum population coverage and pay-back by local authorities.

#### STRATEGY:

##### A: SCHEME DESIGN

- meetings with IPD and PH Divisions. elimination of roads in Kundara having insufficient population (allowing 20% for population growth)
- completion of panchayats 5/6 Pavaratty on the basis of population distribution to save costs given the lower population density.
- solve problem of availability of base maps (Land USE and Survey of India)
- solve computer application problem (for population coverage)

##### B: SITE SELECTION

-?

APPENDIX 1

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(5) MINIMUM INPUT LATRINE-WITH-EDUCATION PROGRAMME

PRESENT SITUATION:

Growing interest in household latrines. Many families in upper poor and middle economic groups not aware they can construct latrines with local materials and local masons for about Rs 2,000..

DESIRED SITUATION:

Widespread construction and use of household latrines with trained masons.

STRATEGY:

By June 1992- try out the programme in Eddapal scheme. Income ceiling of Rs. 14,000. or Rs 15,000. to be checked. Low subsidy of Rs 650 rupees with SEU motivation/education inputs. (5 panchayats).

- Check to develop, if possible a local source for ceramic pans. Review and develop on the Eddapal experience.

By March '92- Do package for/with rural development department for self-managed construction and masons.

(6) LATRINE-WITH-EDUCATION PROGRAMME (low-cost household sanitation, high subsidy)

By Feb '92- Review sanitation strategy with staff. Simplify, focus on limiting senior staff input for self-planned, executed, panchayat-financed programme.

By Dec '92- See if collaboration with Rural Development Dept. feasible. Arrange visit to Periyar/from Periyar. Visit World Bank sites.

VISITORS, MAJOR MEETINGS AND STAFF TRAININGApril-September 1991

Co-ordinating Committee Meeting at KWA/HQ on 8th April and 11th July, 1991.

Mr. Lars Lund, Mr.Dillip Fouzdar, and Mr.Bjorn Kalmer Hansen from Danida Mission, New Delhi.

Mr.Peter Flik (First Secretary - Water and Sanitation) and Ms.Maalke van Vliet (First Secretary - Women in Development).

Programme Officers from each unit participated in the participatory training workshops for training of trainers conducted by PRIA (Participatory Research in Asia) for one week each in April and September, at Bangalore and Udaipur, respectively.

State Pollution Control Board completed field work for a study on bacterial quality of well water among 150 wells in Kerala.

Heads of SEUs North and Central Units participated in the training programme on management for sustainability of rural water supply and sanitation programmes, organised by IRC and MDF in The Netherlands from April 2-28, 1991.

The SEU Review Meetings were held on 8-10 April in Kozhikode and 23-24 September 1991 in Trissur.

Ms.Kathleen Shordt, Socio-Economic Advisor visited Bangladesh in connection with a consultancy for reviewing the non-formal primary education programme and Bangladesh Rural Advancement Committee's (BRAC) overall training capacity during 19th April to 17th May, 1991.

Mr.Theo Haagsma, Technical Liaison Officer, Netherlands Supported Projects joined the KWA on 8 May, 1991.

Mr.Vasudevan Namboodiri, Mr.C.G.Jayaram, Mr.P.K.Vijayakumar, and Mr.P.Harish Kumar, Office Superintendents of the SEUs, participated in the three day Accounts Seminar 1991 at Bangalore during 9-11 May organised by the DANIDA Mission.

Mr. K.Padmanabhan Nair, Managing Director, Kerala Water Authority, attended the 18th International Water Supply Congress and Exhibition in Copenhagen during 25-31 May 1991. On his way back he visited the International Reference Centre for Water and Sanitation, (IRC) and the DGIS at Hague as advised by the Netherlands Government.

The Field Organisers (14) from the three SEU Regional Offices were sent for an orientation training organised by the RUHSA Department, Christian Medical College, Vellore during 17-26 June 1991.

Messrs. Kazem Ghaffari - Nik, Mohammed Hassan Gheitassi Nasser Zeidabadi Jejad, Allahgholi-Sirami Gargari, Ebrahim Sanadgol, Gholmreza Norouzkham Public Health Engineers from Iran visited Kerala during their WHO study tour programme from 25th June to 3rd July 1991.

Dr.Ramadevi, Consultant for review of distribution network and hardware components of the Danida funded schemes was present for a week.

Socio-Economic Research Council completed a study of household latrine programme, especially coverage and cost aspects in 3 panchayats.

Mr.Peter van der Werff and Mr.Joop van Linden, Institute of Environmental Studies, Amsterdam, The Netherlands, visited Kerala from 4-10 September in connection with a project on people's perception on environmental pollution.

Dr.Sandhya Chatterjee, Consultant, Danida, visited Kerala from 15-27 September, in connection with a study on the analysis of people's participation experience in Kerala under the bilaterally funded water supply schemes.

Ms.Kathleen Shordt, Socio Economic Advisor, attended DANIDA Advisors Meeting in Madras during September 25-27, 1991.

Dr.Tom Segaar, Development Co-operation Operations Review Unit, Ministry of Foreign Affairs, The Hague and Mr.Van Stuijvenberg, Management Consultant, Institute of Social Studies, The Hague, visited Kerala from 27-30 September 1991, as part of a preparatory mission in connection with the Inspection and Evaluation of the Netherland assisted projects.

## INVESTIGATIONS ON THE BACTERIAL QUALITY OF WATER IN SELECTED WELLS IN KERALA

### EXECUTIVE SUMMARY

This investigation designed and executed by the Kerala State Pollution Control Board, sought to make an assessment of the bacterial quality of water with reference to fecal coliforms in open dug wells in Kerala. It also attempted to determine the extent to which factors influencing water quality (such as soil type, depth of well, presence of latrine pit in or cattle shed the vicinity, water use pattern and user behavior) contributed to fecal contamination.

In total 150 wells, fifty each from the south, central and northern zones of the Socio-Economic Units of the Kerala Water Authority, were monitored. Of these 150, 144 are open wells and 6 are closed with hand pumps. Among the 144 open wells, 103 have SEU latrines in the vicinity while another 30 wells have related pits or septic tanks of other types. Eleven open wells without any pits in the vicinity were also monitored. Water samples from the wells were analyzed four times, at intervals of approximately 2 weeks, during the period of December 1990, to April 1991. Along with fecal coliforms, three other parameters of water quality namely pH, conductivity, total dissolved solids were also monitored.

Based on the quality of water with respect to the levels of fecal contamination, the wells were classified into four quality classes and these classes are discussed in relation to factors which might influence the quality of water.

The general conclusions from the study are:

1. Water in none of the open wells investigated is of drinking water quality standard as prescribed by the Bureau of Indian Standards.
2. Water analyzed from covered wells with hand pumps that were as close as 5 meters to the SEU latrine pits were found to contain no fecal coliforms.
3. The open character of the wells and the conventional maintenance habits are found to be responsible for fecal pollution in them.
4. Pit latrines with average family load factor (5 members) at a distance of 5 meter from wells are found to make no contribution to the pollution of well water.

Though the study is limited to the three areas of Kollam, Thrissur and Kozhikode where the Socio-Economic Units of Kerala Water Authority operates, the observations can be generalised since the study has covered varied geological, social and cultural variables applicable to the State as a whole.

With these conclusions in mind, it is suggested that there should be a system for monitoring the quality of well water, since habits of poor maintenance overtake the programmes for disinfection and protection of wells resulting in water quality deterioration. As the present study is focussed on existing wells selected at random, it needs to be followed by a detailed study on the effects of leachates from latrine pits in different soil types at definite intervals of distance and time.

#### Implications of the Study

At the request of the Socio-Economic Units, this research study was reviewed, in draft form, by several professionals. We are thankful for their responses. Among these, two questions arose about the implications of this study. These are addressed in the following paragraphs:

Question: How is it possible that not one open well satisfied the Bureau of Indian Standards guideline for the bacterial quality of drinking water? Was the sampling procedure wrong in the study?

Indeed, none of the 144 open wells satisfied the Bureau of Indian Standards guideline which requires that every sample of water be free of fecal coliforms (that is, zero fecal coliforms per 100. ml). The conclusion, therefore, is that there is a high probability that open wells in Kerala are polluted with fecal matter.

The 144 open wells were selected at random. The only criteria for selection were that the wells could not have been chlorinated in the preceding 3 months and that the wells be located in areas where the Socio-Economic Units work. In fact the 144 wells in this study are located in 7 panchayats scattered around the state, in Kozhikode, Thrissur, Kollam and Thiruvananthapuram districts. These are in areas having a wide diversity of physical, social and economic conditions. The conditions, therefore, are not different from that in other panchayats in the low-land areas of Kerala. Thus it is unlikely that the results of the study are due to sampling error. It is worth mentioning that the samples were taken (December to April) at a time when the bacterial quality of well water may be better than at other times, such as at the onset of the monsoon.

While the five closed wells (with handpumps) were free from fecal coliforms, the same was not, in fact, expected of the open wells. It was expected that most open wells would not meet Indian or international standards for microbacterial quality of drinking water. To quote from two well-known sources: "...WHO (1971 and 1984) recommended that small water supplies should contain zero E. coli per 100. ml. The great majority, if not all untreated water supplies in the developing countries

will not meet this requirement."\* "Untreated water sources are almost invariably contaminated with fecal matter and contain fecal coliforms and other indicator bacteria."\*\*

What was surprising in the results of the study was the proportion of wells in the sample (58 % or 83 out of 144) which were in the high pollution class. In other words, more than half of the wells had three or four samples with more than 10.0 fecal coliforms per 10.0 ml. Clearly steps should be taken soon to reduce the level of pollution. Even if it is not possible to eliminate all bacterial pollution, efforts should be made to ensure that drinking water has a bacterial quality not exceeding a certain level, for example, of 10.0 f. coliforms per 10.0 ml.

Another question which was asked about this study was: If drinking water from wells is polluted, why are there not more diseases in Kerala?

There are three responses to this. Firstly, following internationally-recognized procedures, this study tested for the presence in well water of an 'indicator bacteria', fecal coliforms. These are bacteria which are always excreted in large numbers by warm-blooded animals in their feces, whether they are healthy or sick. Thus, if a sample of water contains the indicator bacteria, then it is contaminated from the feces of animals or people. It should be understood that most fecal coliforms are not, in themselves, disease carrying. Their presence in water means that other disease-causing agents might be present.

Secondly, note that in Kerala there are, usually on a seasonal basis, water-borne diseases such as cholera and typhoid. However, incidence of major diseases does appear to be lower in Kerala than in many other parts of the nation. Many of these diseases are water-washed as well as water-borne (that is, their incidence is a function of quantity as well as quality of water). The incidence of major diseases would be greater without the high per capita use of water and relatively good hygiene which prevails in Kerala.

Thirdly, it is very important to note that polluted water does not only cause major diseases such as cholera and typhoid. There are other ailments which are not in themselves life threatening,

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\* Cairncross, S. et al. Evaluation for village water supply planning. Technical Paper Series No. 15. International Reference Centre for Community Water Supply and Sanitation. The Netherlands. 1980. 177 pages. Quote from page 73.

\*\*Cairncross, S. and R. G. Peachem. Environmental health engineering in the tropics. John Wiley & Sons. 1983. 271 pages. Quote from page 31.



APPENDIX 3  
page 4

but are nonetheless debilitating. In fact, the health status in Kerala has been characterized by professionals as one of chronic, low-level morbidity. This is often not fully understood or recognized by the population. One example which may illustrate this relates to frequent episodes of low-level diarrhoea. "Loose stools" are accepted by many people as being normal. This is not correct. The implications for children are particularly important. For children in particular, diarrhoea and 'loose stools' are reflected in minor illnesses, reduced absorption of important nutritious elements and so on. The child or adult is not dramatically ill, but not fully healthy. One necessary measure to improve this is to protect drinking water sources and, of course, to store and use water in ways that ensure it remains of high quality. The effective protection of open wells, in particular, may include: covering wells completely and raising water with a handpump or, if this is not possible, chlorination at regular intervals and improving the physical surroundings of the wells.

## EXCERPT FROM SANITATION STRATEGY

The following pages are excerpted from the Sanitation Strategy which is a document used by the panchayat and the SEU to carry out the programme together.

Role of Panchayat

The programme will generally be undertaken in two wards at a time. Details of the activities noted below are shown on the following pages.

1. Panchayat Water Committee consisting of panchayat ward members, one representative from each WWC, KWA Assistant Engineer, Health Inspector, ICDS Supervisor will be responsible for overall implementation committee for this programme. A meeting of the PWC is convened to detail the speedy and successful implementation of the programme.

An executive committee comprising of Panchayat President, Executive Officer, KWA Assistant Engineer and SEU Official, one lady member (not necessarily an elected representative) from PWC will look after the day-to-day affairs.

An overseer (Sanitation Supervisor) has to be made available by the Panchayat Dept. The Panchayat Water Committee will oversee the programme and assist in all steps.

2. Opening joint accounting system (Executive Officer) and Programme Officer (CO). At opening of the joint bank account, panchayat should first transfer their contribution. Agreement with panchayat to be agreed and signed.

3. Panchayat contribution may be used extending the programme in the panchayat and/or reaching the very poorest people.

4. Legislation of latrines in panchayat ward for new houses if relevant policy exists.

5. Beneficiary selection is to be done by Ward Water Committee with SEU and confirmed by panchayat water committee (which includes all panchayat members). An updated list of eligible beneficiaries for the latrines will be prepared with the help of WWC. A separate register has to be maintained in the panchayat for beneficiary contributions.

6. Demonstration latrines constructed through the panchayat must generally be for ICDS, balawadi, schools, panchayat office or PHC. These do not require a 25% contribution.

7. Executive Committee decides on sources of procurement. Printed voucher must be used for all purchases; and separate cash book for all remittances and withdrawals has to be maintained by panchayat. The voucher has to be approved by sanitation supervisor and countersigned by the ward member. See the following pages that describe the work of the Executive Committee and WWC.

8. Other: - Maps of socio-economic weaker sections, colonies, needy areas, logged areas and public institution.  
- Willingness to provide accommodation for meetings and training session for all SEU support activities in the panchayat.  
- Support for Health Education activities to be conducted for the beneficiaries and general public, with the SEU. (See Health Education Guidelines, at the end).

Criteria for beneficiary selection

The criteria to be followed by the KWA/SEU for the selection of beneficiaries for the latrine programme are:

1. Low income families with a monthly income of below Rs.500/-
2. Beneficiary should express keenness to own a latrine and participate in all the health education activities.
3. There should be adequate water supply to maintain the sanitary latrine.
4. There should be sufficient space to construct a latrine without posing any problems to sources of drinking water, and other households. There should be a minimum distance of 10 meters between the latrine pits and existing drinking water sources.
5. Households to be given priority are: (a) headed by disabled or handicapped; (b) headed by widows; (c) scheduled castes or tribes not already served by other sanitation programmes.
6. Land to construct the latrine and house should be owned by the beneficiary.
7. Beneficiary should dig the pits. In addition, beneficiaries should contribute 20% of the cost of the latrine. Thus the total beneficiary contribution (digging pits and 20% finance) is about 25%. It is the responsibility of WWC to see that transportation of materials is done by the beneficiaries as a group.
8. Other criteria if, as often happens, further selection is needed, should be the following:
  - hut construction living in colony
  - own less than 5 cents land
  - number of female children
  - number of people working in the household.

Beneficiary Selection - Selection Process

1. WWC provides an up-dated list of eligible beneficiaries in each ward.
2. WWC members distribute application forms to eligible beneficiaries and collect the filled forms.
3. These forms are handed over to SEU with ward members' recommendation.
4. KWA/SEU personnel scrutinise the forms and make field verification. Beneficiaries list are displayed in important places of wards for public comments. Panchayat at (or PWC) scrutinize and approve list.
5. WWC persuade the beneficiaries to remit their contribution in the panchayat. Register to be kept of beneficiary contributions by panchayat.

STEPS IN IMPLEMENTATION FOR EACH PANCHAYAT

1. Identification and Selection of Panchayat

See earlier pages: Identifying needy panchayats for the double pit pour-flush latrine programme-role of the panchayat and the criteria for the selection. Activities will normally be undertaken two wards at a time to allow for more efficient education and construction work.

2. Survey of Panchayat: Collect data on all panchayats coming in the scheme area to study the sanitary condition of the panchayat and existing agencies working in the area; area of panchayat; No.HH; No.HH with latrines by ward; No. HH below poverty line; history water-related disease; panchayat income for 3 years; if possible, No.HH below poverty line with latrine. See earlier page for example of a data sheet.

3. Panchayat Meeting:

To brief the panchayat about details of the programme, cost, technology, beneficiary participation, role of each committee - health education and how to submit the panchayat proposal and contribution etc.

4. Construct demonstration latrines

This should be constructed in each panchayat to determine the exact costing for that panchayat. Check carefully labour costs during this construction. The demonstration latrines should be built for the ICDS, health clinic, for example. In some cases the SEU will decide to do two constructions: one for the demonstration latrines and another to arrive at the costing.

The costing of the latrine in this way determines how much subsidy will be given for each latrine in that panchayat. It also determines how much the beneficiary will have to contribute (20% of the price of construction). The SEU should therefore try to cut down the cost at this point for each panchayat, for example, by using locally available materials (laterite, composite bricks etc.)

5. Convening of PWC (Panchayat Water Committee) and function

Panchayat water committee consisting of panchayat ward members, one representative from each WWC, KWA Assistant Engineer, Health Inspector, ICDS Supervisor will be responsible for overall implementation committee for this programme. A meeting of the PWC is convened to detail the speedy and successful implementation of the programme.

An executive committee comprising of Panchayat President, Executive Officer, KWA Assistant Engineer and SEU Official, one lady member (not necessarily an elected representative) from PWC will look after the day-to-day affairs.

6. Project Proposal

Resolution to be taken by the panchayat and submitted to SEU. Open bank account (joint signature by Executive Officer and Programme Officer). Panchayat contribution should first be deposited. Agreement with panchayat must be completed and signed.

7. WWC/Sub-Committee training

WWC is in charge of general implementation of the programme and subcommittee will be responsible for all the health education activities. Training and preparation for health education activities for 12 months.

8. Mobilisation Campaigns

Will be carried out by WWC together with existing local agencies such as ICDS and PHC for at least 2 months.

9. Beneficiary Selection

The forms provided by the WWC are scrutinised and verified to ascertain eligibility. The list will be displayed in different parts of wards for public comments. The list must then be scrutinized and approved by Panchayat Water Committee.

10. Beneficiary Contribution and meetings

20% of the cost of the latrine has to be borne by the beneficiary. Other responsibilities of beneficiaries are: preparing two pits of appropriate size, transporting materials from the main road or store house to the site, assisting the helper etc. A separate register has to be maintained in the panchayat beneficiary contribution.

During this time the following topics will be covered: amount and mode of remittance of contribution. Give and explain work sheet, need to attend HE activities, introduction of technology, water seal, peoples participation etc (2-3 months). Describe the entire programme.

WWC will be responsible for motivating beneficiaries to pay the contribution. This should be deposited in instalments, or in lump sum at the panchayat with accounting done as shown in the following section about accounts and finance.

11. Identification and Training of Masons

WWC will identify local masons. One set of lady masons wherever available. All hands should be trained. Number required for each ward must be divided. Experienced masons, and SEU draftsman give the training. In addition, give them training in talking about the technology and health aspects of sanitation to the households. Special training and planning for working with women masons will be needed where possible.

12. Pit Marking and Pit Digging

Marking on ground is done by a technical person/health inspector and trained WWC members. Beneficiary digs the pit according to the dimensions explained by the technical person/WWC member.

13. Construction and purchase

For convenience construction could begin in two wards. Quality of construction has to be periodically inspected by the technical person AE/KWA or Overseer or Supervisor. SEU and KWA staff should in any case make spot checks of construction period. The report of the periodic and spot inspections should be given to the Executive Committee. Intense health education activity (4-5 months) to begin at this stage.

The role of mason/draftsman as agents of health education in individual beneficiary houses is also very important.

Executive Committee decides on sources of procurement. Printed voucher must be used for all purchases. Voucher must be approved by sanitation supervisor and countersigned by ward member. Separate cash book for all remittances and withdrawals has to be maintained in the panchayat. It is the responsibility of the WWC to see that transportation of materials is done by beneficiaries as a group.

Sanitation Supervisor has to submit weekly report of progress and monthly accounts. Field organizer/SEU official to make fortnightly visits. Each sanitation unit must have a serial number. SEU to maintain list of these.

Details of purchase, accounts, supervision are given on the following pages.

14. Use and Maintenance

Guidelines on use and upkeep of latrines are given in small group meetings. These are to be undertaken by PWC/WWC. Also supply at this stage: a booklet/leaflet or instruction in use, a brush to clean. Emphasize the following:

- children and men should use latrines
- washing hands with soap/ash after defecation
- maintaining water seal
- preventing blockage
- keeping surroundings and latrine clean.
- other special issues for that family, ward or panchayat

Remember, only a minimum amount of water need be used for efficient flushing; and this is an important consideration to prolong the life of the pits and for conservation of water. In Kerala people tend to use too much water down the latrine.

15. Technical Verification Of Units

Technical person (KWA), SEU personnel or Representative from P W C certifies fitness.

16. Follow-up:

W W C conducts periodic follow-up of the latrine (monthly). Quarterly monitoring carried out by outside agency and report to PWC and SEU.

17. Documentation:

All stages of activity should be carefully documented and assessed. For each panchayat, the following information should be available, kept in one file (please indicate which of the following your unit will collect):

- (1) Panchayat contract and proposal
- (2) -wards in which work undertaken and dates of beginning construction in each ward. number of latrines to be constructed in each ward. Confirmation at the end that these were (were not) constructed and date of completion of

- (3) - register of beneficiary contribution (panchayat). Name, address of beneficiary, amount paid,  
- application forms and serial list of latrines together with technical verification. It might be useful to combine the register of beneficiary contribution with the application forms, serial list and technical verification.
- (4) - accounts: Register of accounts for panchayat programme. State total amount of SEU input. State amount of panchayat contribution and how that is to be spent. Confirmation is also needed in the file that it was (or was not) spent as intended. Please note that accounts for each panchayat covering their contribution and the SEU contribution must be available (either in the SEU office or the panchayat) and kept in good order. This will be subject to an external audit.  
- Financial statement to be given by Office Superintendent after every monthly audit.  
- See the following pages which give directions for accounting, purchase and supervision.
- (5) - technical data: soil quality by ward. List where special construction was needed because of soil conditions or closeness to drinking water source. State the cost of the latrine by ward or panchayat.  
- education: For each Panchayat, note any unusual things about the education programme (new topics covered that are not usually covered, problems, good things that happened--be specific). List any other SEU education or project activities going on in that panchayat.  
- Follow-up include all data collected in follow-up which relate to use of latrines, household sanitation, quality of construction, defects in the materials used in construction, and so on.

SEU to put all documentation in a file at end for further monitoring and records.



ACTIVITIES OF THE WARD WATER COMMITTEES....WHAT DO THEY DO?

The following list of Ward Water Committee (WVC) activities has been prepared by the SEU(South):

With sanitation: The WVC selects beneficiaries. It takes initiatives in mobilizing beneficiaries for health education meetings. Also, the WVC has a role in checking the quality of the materials purchased and checking the construction. In periodic meetings, the WVC reviews the process and problems of construction which is an important agenda item and which, in most cases, helps a lot in overcoming difficult issues.

With trial runs: The WVCs inform people about the trial runs which helps the KWA in getting prompt reporting of breaks and leaks, rather than inquiries or complaints.

Fault reporting to KWA: General reporting to the KWA of the condition around the tap, adequacy of water, leaks is a regular activity of the WVC.

With chlorination: Chlorination of wells is another area which the WVC does with inter-agency collaboration.

with planning: The WVC does planning for its ward of the 18-month programme of for sanitation and water coming into the schemes. The general planning of the 18 month water and sanitation programme is done with the WVCs and in each month the progress is review while plans are made for the next month. The Field Organizers discuss the work content at staff meetings based on the planning scheme. But due to the lag in phasing of the hardware and software in many cases adjustments have to be made in the monthly programmes.(SEU-Central works in a slightly different way.)

with campaigns: In all the health education activities such as deworming camps, film shows, exhibitions and campaigns, the WVC takes an active role.

with standpost attendants: Standpost attendants (SPAs) are selected by the WVC. It is the WVCs who organize meetings of SPAs and SPAs give reports of the progress of their work at ward-level meetings.

with school health clubs: Members of the WVCs collaborate in the activities of school health clubs. Children visit construction sites for latrines, 'adopting a colony' and so on.