

22  
L.H.K.185

# WOMEN & WATER A CASE STUDY OF BUOLAWA

BY

VILVA FERNANDO

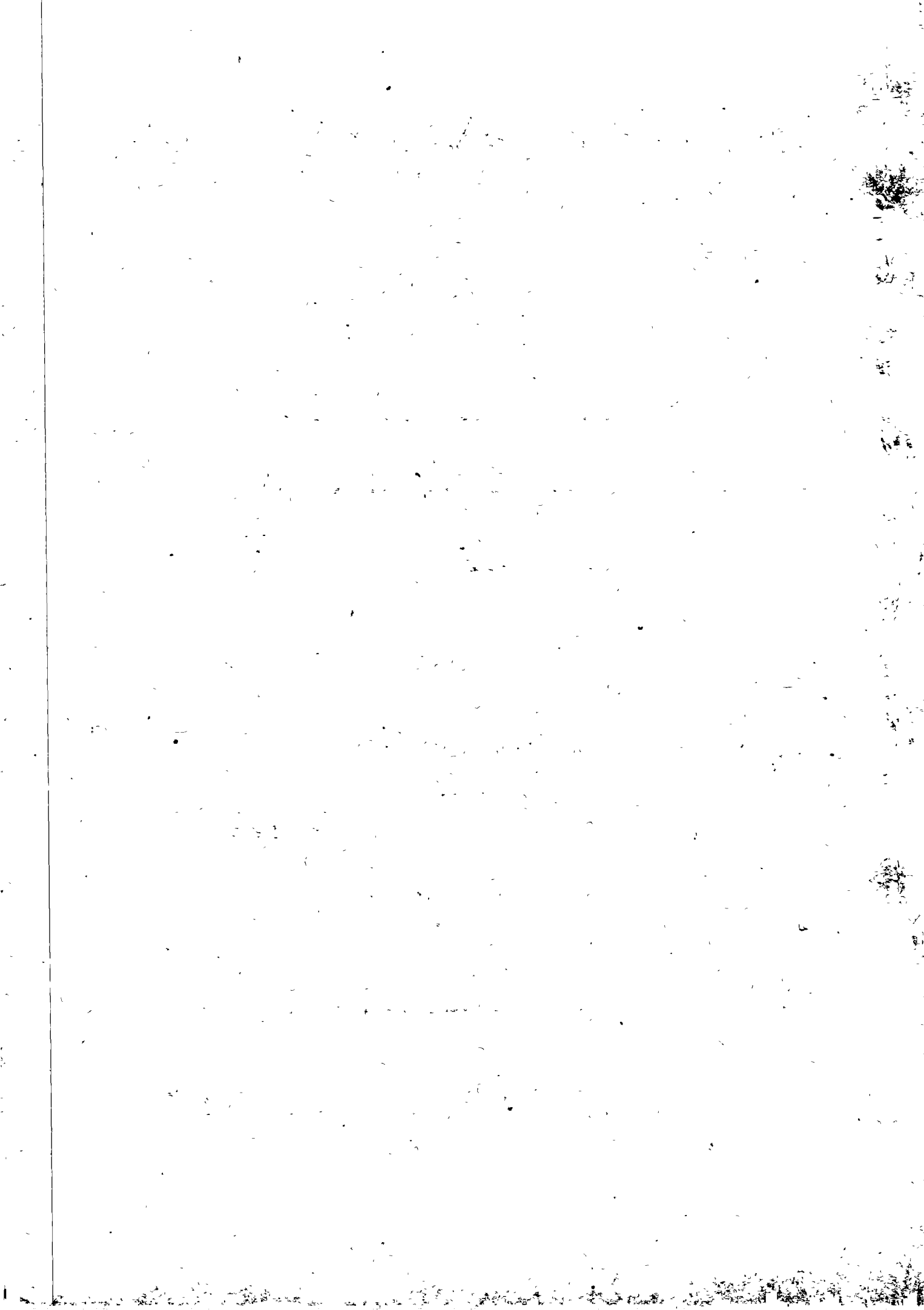
LIBRARY  
INTERNATIONAL REFERENCE GROUP  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)

CASE STUDY SERIES NO. 17

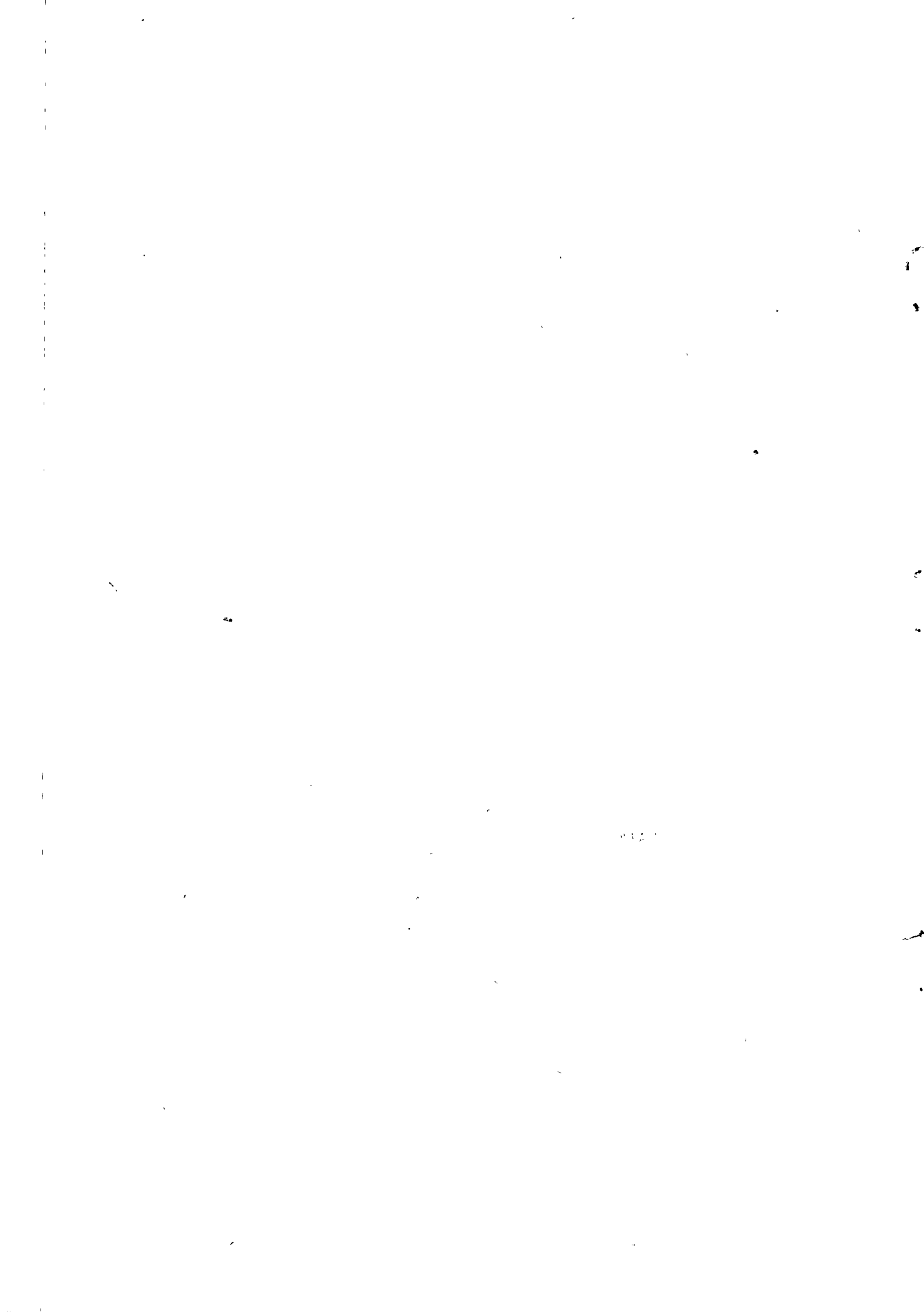
WATER SUPPLY & SANITATION DEPARTMENT

26, MELBOURNE AVENUE, GEORGETOWN

SRI LANKA

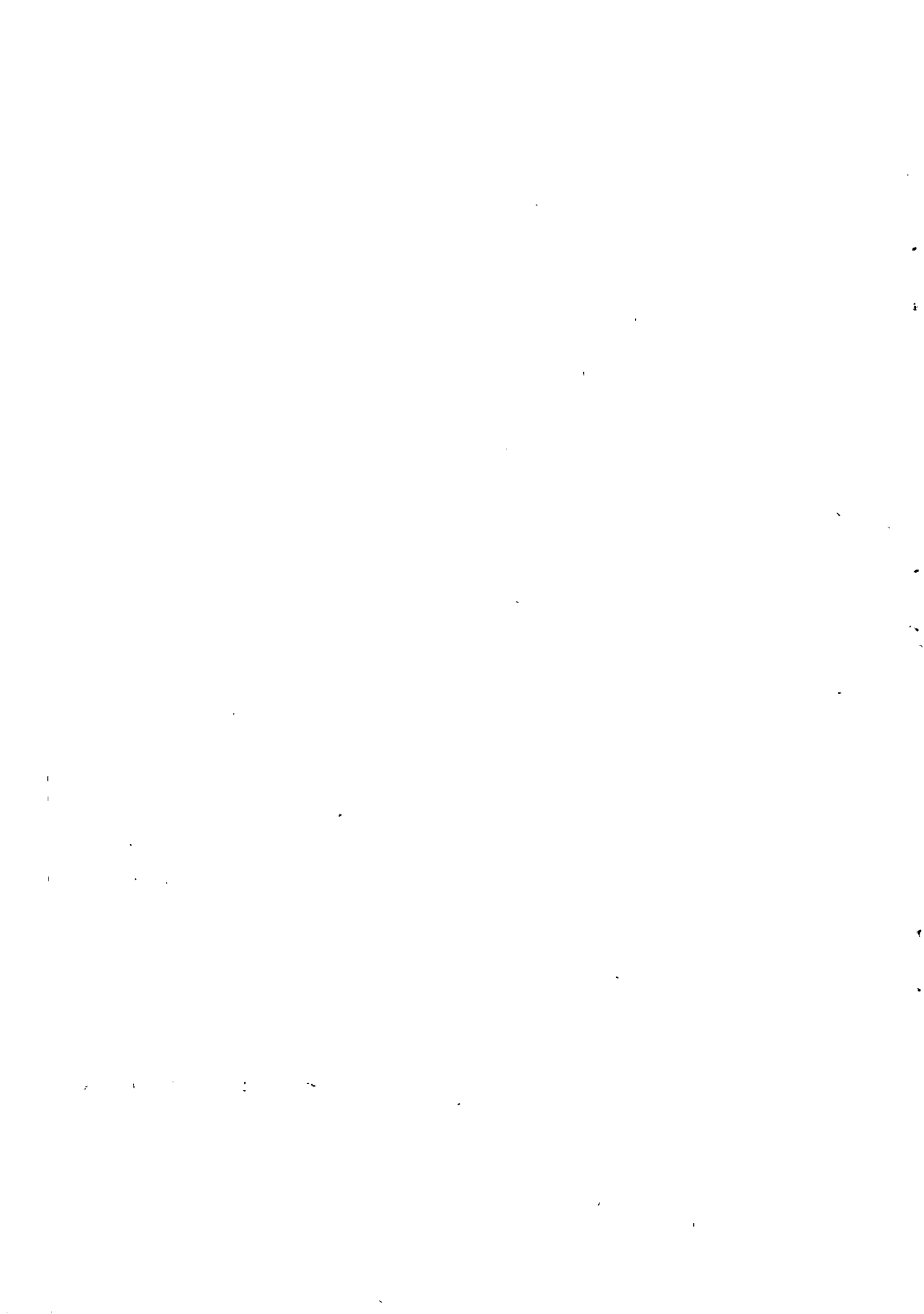


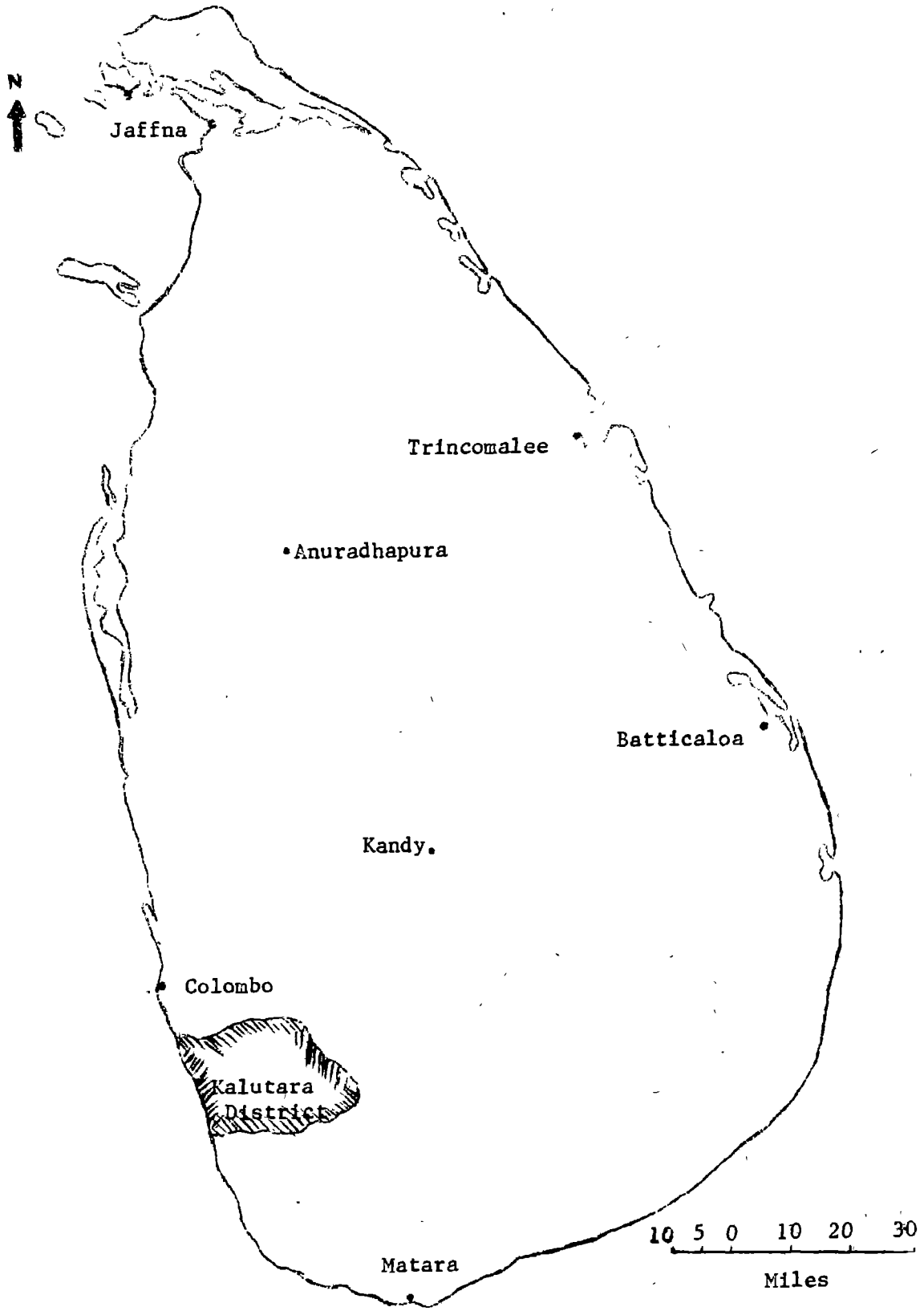




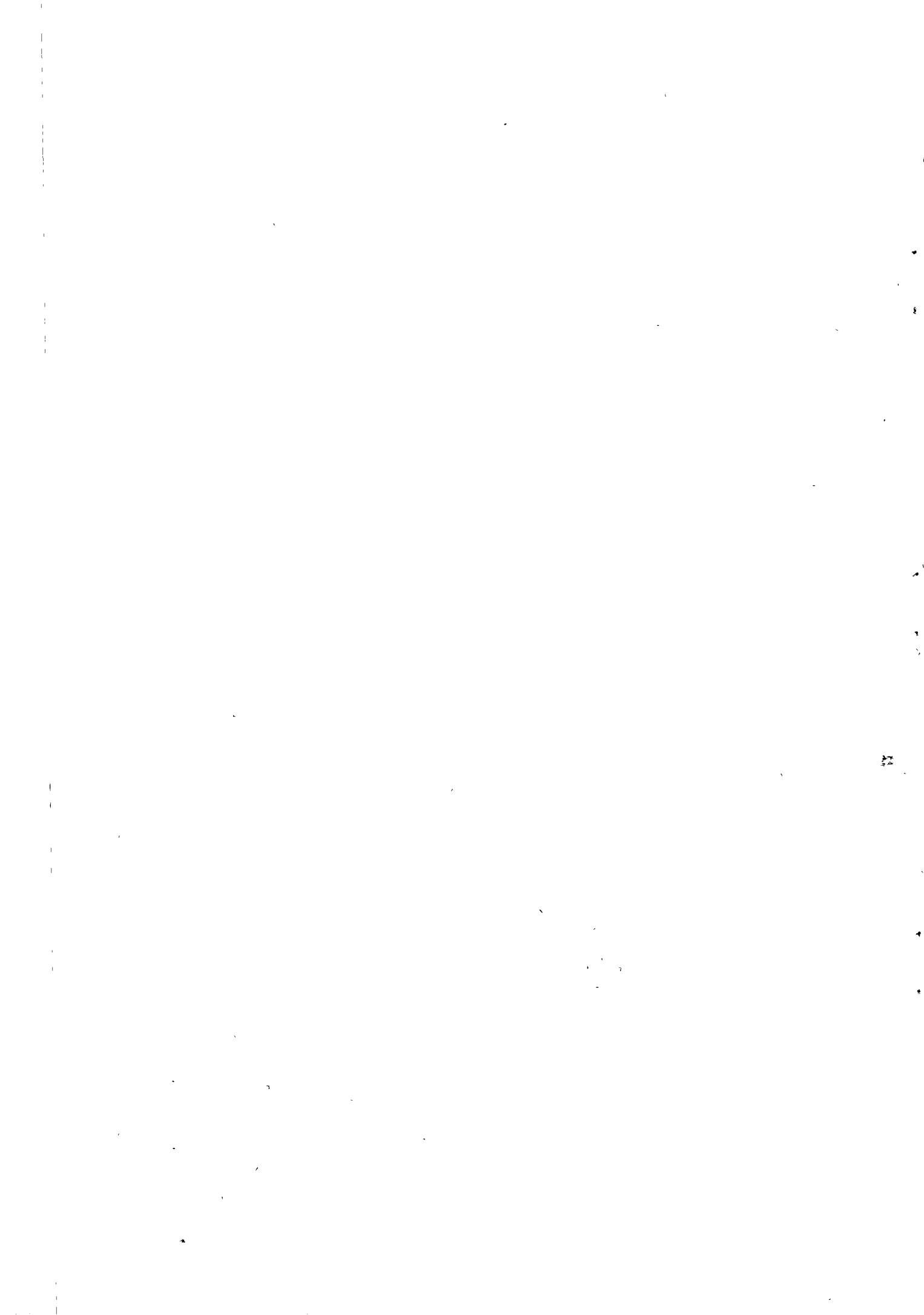
## CONTENTS

	Page,
INTRODUCTION ...	01
METHODOLOGY ...	02
WHY WOMEN ? ...	05
KITULAWA ...	11
SURVEY & FINDINGS ...	18
WATER & HEALTH ...	30
FLOODS ...	32
COMMUNITY PARTICIPATION ...	34
BELIEFS ABOUT WATER ...	39
OBSERVATIONS & RECOMMENDATIONS...	42
BIBLIOGRAPHY ...	48
QUESTIONNAIRE ...	49





DISTRICTS OF SRI LANKA.





Scale : 8 chains to 1 inch.

North ↑

KIPULAWA

○ COMMERCIAL BUILDINGS

● HOUSES

BIHANI  
-MULLA  
ESTATE

LAGOS  
ESTATE

LAGOS  
ESTATE

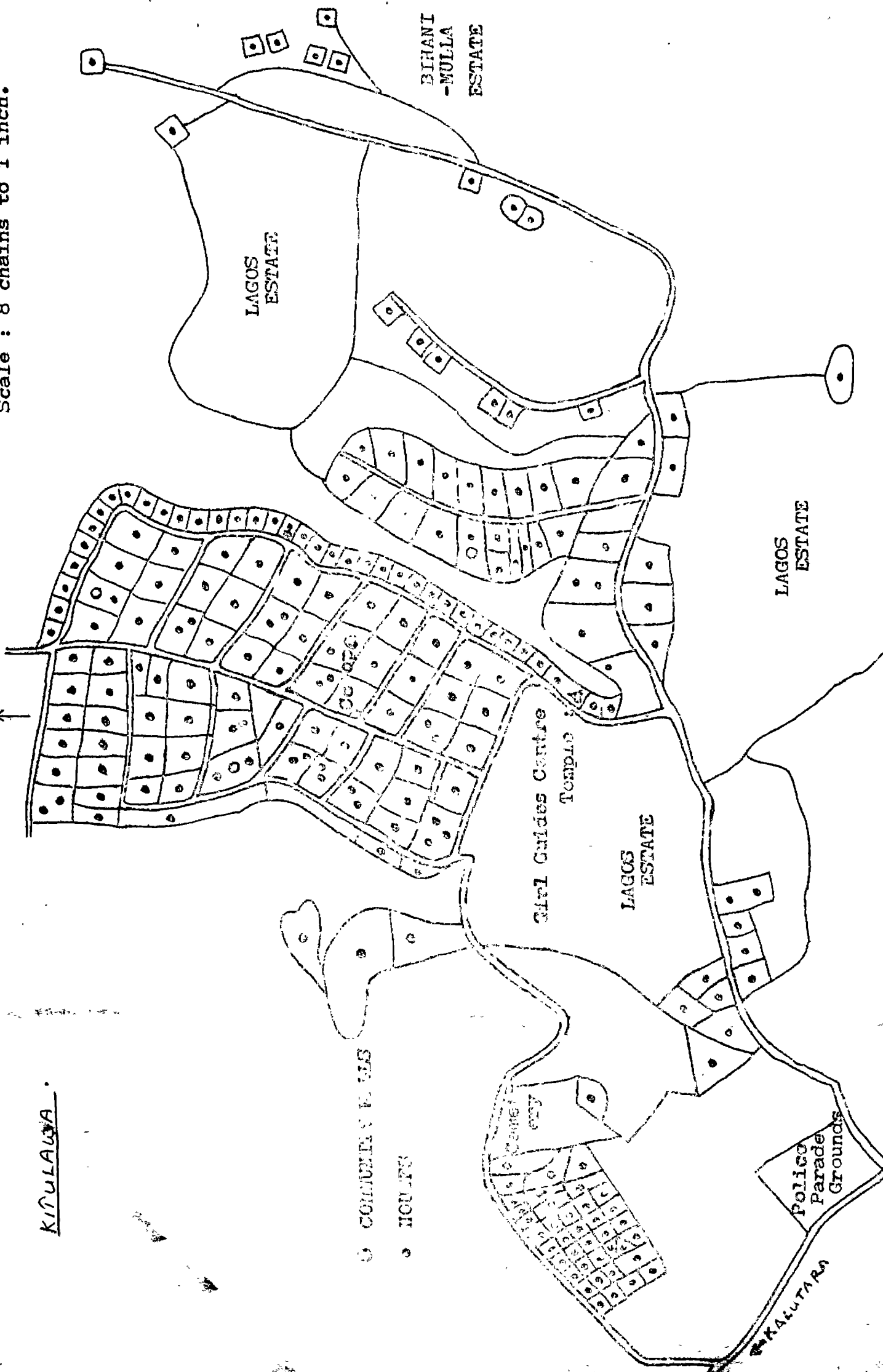
LAGOS  
ESTATE

Girl Guides Centre

Temple

Police  
Parade  
Grounds

KALUTARA



## INTRODUCTION.

In any effort at improving the Water/Sanitation facilities and their use in a community and consequently its health status, a host of diverse factors come into play. There are the physical, economic and technological factors and there is the whole gamut of socio-cultural factors that affect a particular behavioural response. Any strategy that is mounted to improve the health status of a community will necessarily have to take cognisance of these factors and their interdependence, and then match them in particular ways to bring about desired behavioural change. Case Studies, as a social science investigative tool, are particularly useful in identifying and analysing the critical factors that affect the success or failure of a development project.

The NGO Water Supply and Sanitation Decade Service (Decade Service) is pleased to bring out this first Case Study on Women and Water at Kitulawa, as a contribution to the development efforts of NGOs in Sri Lanka. The Decade Service is an umbrella organisation of NGOs (in Sri Lanka) engaged in the Water/Sanitation sector and its Secretariat implements a programme designed to assist NGOs especially in the following areas:

- i Programme Planning and Management
- ii Coordination & Information clearance
- iii Non Formal & Participatory Educational Methodologies and Materials
- iv Project support Communications
- v Technical Information/Designs etc.

The Decade Service was set up in February, 1983 under UNDP sponsorship with the objective of harnessing NGO efforts for the realisation of the National Water Supply & Sanitation Decade Targets.

The Decade Service wishes to acknowledge the support - both technical and financial - given by United Nations Development Programme (UNDP) to the programme. The execution and distribution of this case study has been possible because of the assistance given by UNDP.

@@@@@

## METHODOLOGY

The case study is of Kitulawa in the Kalutara district. The Kalutara district, unlike dry zone areas of Sri Lanka, does not experience acute water scarcities and consequent cycles of disease. Communities in the Kalutara district, however, do fall victims to water/sanitation related diseases due to the poor quality of water and due to regular floods. According to national health statistics, Kalutara district ranks high in regard to infant mortality, mortality due to typhoid fever and mortality caused by intestinal helminthiasis. Besides, the Kalutara district is one of the most populous, with a population of 5.6% of the entire population of Sri Lanka. Due to these reasons a number of United Nations agencies, UNICEF and WHO for instance have selected Kalutara district for concerted and intensive interventions.

Kitulawa is a community which reflects most of the socio-economic features which characterise communities in the district. It also happens to be the project area of the Sri Lanka Girl Guide Association, a member of the NGO Water and Sanitation Decade Service. The Decade Service itself was associated with the Girl Guides in a training programme on water/sanitation at Kitulawa.

Hence our interest to learn more about Kitulawa.

Our first introduction to Kitulawa was through the Girl Guide Association project. Our first contacts with the village were made through the Project Director of the Guides, Ms. Padmini Amarasinghe who introduced us to the Project Leader H.R. Samawathie and the village leaders.

These few persons formed a committee to meet the villagers. This was further facilitated by the Mothers' Committees formed by the Guides who met on Saturday mornings and the Kitulawa Guide Company already busy getting ready for a camp when we first went to Kitulawa.

After our preliminary acquaintance with the village leaders, mothers and some of the men we introduced our researcher, Padmini Kariyawasam to the women. Our subsequent visits were made with Padmini and the young women leaders of Kitulawa.

As the Water and Sanitation Decade Service had already had a health training workshop with the villagers close by, our presence was welcomed and our work facilitated at every step. This was mostly due to the respect and affection the villagers had developed for Padmini Amerasinghe and Samawathie.

We were able to visit the Development Secretariat Kalutara and get information about the village, its history and the initial process of settlement. In this we were greatly helped by some of the older residents of Kitulawa too.

After this initial groundwork the survey began in earnest. Every household was subject to the survey by Padmini Kariyawasam who later co-opted two friends - also experienced researchers to visit the households with her. Some households were visited more than once as on occasion when the man of the house was not at home, the women wished that the survey would be done in their presence.

Some of the women were again interviewed at the Mothers' Committee meetings. The questionnaire (annexed) did not pose any problems but this was certainly not enough. A great deal of information was gleaned by personal conversations with the women and older girls. The men were often very co-operative though there was reluctance among both men and women to reveal details of recent illnesses caused by water. This, we felt, was considered a reflection on their cleanliness. There is also an inherent reluctance to talk of children's illnesses.

Apart from the household survey we also had intensive conversations with the village leaders - especially two young women who did not go out to work at the time. Intelligent and educated, very open to new ideas and impressions, convinced of the need for the older women to be better educated in health, these two young people proved invaluable assets in our study.

The survey results were analysed by Mr. D. Jayakody, statistician of the Census and Statistics Department and tabulated by him. The information on traditional beliefs and ideas, folk lore, taboos etc. which were entered under 'Other Information' was, however, not tabulated but included in the relevant section of this report.

WHY WOMEN ?

The International Drinking Water Supply and Sanitation Decade has focussed, for the first time, attention on women as part of the overall Decade Programme. It has also demonstrated the importance of focussing on rural women in traditional societies, the forgotten majority who are the hardest to reach. This does not mean of course that in developing countries like Sri Lanka women in urban areas have no drinking water and sanitation problems. On the contrary, women in urban fringe areas are equally deprived as their counterparts in remote rural communities of the island.

Numerous studies and conferences have made women their main concern and stressed the vital need to involve women in all stages of water and sanitation projects. At field level, implementers have, however, come up against many obstacles to successful execution of recommendations.

Approaches to successful planning and executing of water and sanitation projects have to be appropriate not only to each country, but to communities within each country. Cultural, social and economic factors particular to each situation should be weighed and basic principles which may be applied to most situations should be identified.

But despite constraints and problems women must be addressed if water and sanitation projects are to meet with any measure of success. It bears repetition that women are the world's main water bearers and the managers of the water collected for household use. Food preparation, bathing children and laundering clothes, tending animals and home gardens and income generating ventures all require water and women are the managers of this water.

Sanitation cannot be divorced from water and women's role here is equally important. It is the women who bear responsibility for maintaining cleanliness within the household and it is the women who teach sanitary habits to children in the household.

Central planners must recognize and utilize to the full the key role women play in water and sanitation programmes - as acceptors, users, managers and educators in all matters connected with water and sanitation.

Women can be the best means of influencing the volume of water consumed and the achievement of health effects, determine the quality of water by being the main transporters of water and those in charge of storage vessels and their state of cleanliness. Women are also those who provide their young with fluids and medicine during illness and health both, and are therefore responsible for the cleanliness of the water and the treatment of children during water borne diseases such as diarrhoea. The importance of this particular involvement of women cannot be too strongly stressed in developing countries like Sri Lanka where bowel disease is the second highest killers of children under five.

Low levels of education among women help to perpetuate false beliefs regarding water and sanitation practices. Women once again are the main practisers of these belief and are also responsible for perpetuating them among children. These beliefs and attitudes have to be identified and modified where possible by means of education and this too can be done best through women. Traditional practices and beliefs about water and waste disposal are ingrained among rural people in Sri Lanka. Though some of these have hard practical truths and sound common sense others are foolish beliefs and have no scientific foundation.

Many do not believe in a co-relation between disease and impure water or disease and unhygienic sanitation practices. Boiled water is 'hot' water which is medicinal and given only during times of illness. Children's excreta is considered harmless and is disposed of carelessly and children do not usually use the latrines used by adults some distance away from the house. However, a Children's Secretariat pilot project has devised a low cost specially designed small water seal lavatory without walls located just outside the house which children can use supervised by their mothers. The water for cleansing the toddler is used to flush the latrine.

In some communities the men use the latrine available but the women defecate in a wooded area outside the house. Where latrines for women have been designed the women have shown definite ideas for their design, most of which revolve round modesty. For instance safe doors which lock on the inside were a priority in the latrine project by the Guides at Kitulawa.

The Kitulawa experience also showed that attitudes and beliefs - however simple they may appear to sophisticated minds - have to be considered in educating women about hygienic practices. One of the happier outcomes of the study was that education, however basic, about water was an entry point to other educational programmes - of family planning, nutrition, child health and even pre-school education. The new pre-school became the hub of the village where mothers met on Saturdays and in addition to water and sanitation and health training, a small income generation project was also planned and put into operation.

In spite of the universal realisation of the major role women can play in water and sanitation it seems that there is a singular reluctance on the part of planners to consult women on these matters. The Sri Lankan government has recognized the vital role of community participation in all development projects. But women have not been consulted and considered for fulfilling the Decade objectives of revolutionising the roles of rural women in their traditional roles of water carriers and fetchers but also in accepting their contribution to planning, construction and maintenance of water supply schemes.

But women continue to play an important role in water supply and sanitation schemes of the Non Governmental Organisations (NGOO). In some of the projects by womens NGOO, women are the greater participants in organising community labour for construction work, and have even proved clever negotiators for funds for digging wells and constructing latrines from national and international agencies. In some, women have been involved in all aspects of the project, in siting, design and construction, in health training and other ancillary programmes. They have provided hundred percent community participation and in some cases managed to derive satisfaction of basic needs for their families in terms of regular water supplies and proper means of waste disposal.



It is interesting to take a look at the status of women in general and the educational status of women of Sri Lanka.

Status of Women:

Sri Lanka is classified as a developing country on the basis of its Gross National Product (GNP) per capita of US dollars 203. Despite the low GNP the Physical Quality of life Index (PQLI) in respect of literacy, infant mortality and life expectancy is much higher than in most other developing countries, Sri Lanka's literacy rate is 82 percent.

Agriculture accounts for one third of the GNP, mainly tea, rubber, coconut and rice.

Income levels are low especially rural incomes. The rate of economic growth is slow and there is heavy dependence on imported, raw materials and foreign technology.

Women form 48.5 of the population and the majority of women are literate. In 1981 the literacy rate was 70.9 percent.

The constitution of Sri Lanka guarantees equal rights to men and women. Women have access to education, health and all other services and right to employment. Protective legislation safeguards rights of women, maternity benefits, safeguards for night work and in conditions considered injurious - eg. underground work. But women's economic status has remained low. Slow pace of growth, traditional attitudes have affected the emancipation of a large sector of women especially in remote rural areas who are engaged in arduous, repetitive and physically heavy labour.

Sri Lanka has three major ethnic groups - Sinhala 71%, Tamil 21% and Moors and Malays 8%.

80% of the population live in rural areas.

Family Planning services widely available in all areas of the island have contributed to a decline in fertility since 1960 - the rate of decline is 1.7 percent per annum.

Women are the greater participants in Family Planning. Rising educational levels and increasing labour force participation are the two major contributory causes of the falling birthrate in the country.

Education of Women :

Girls have equal access to education in Sri Lanka. The introduction of free education in 1945, and the subsequent implementation of welfare policies as free text books, scholarships and free mid day meals have brought education closer to women. Consequently sex disparities in literacy both in enrolment and educational attainment are minimal.

Ironically, despite nearly fifty years of free education and additional benefits and an islandwide network of schools, Sri Lanka has not yet achieved the goal of universalizing education even at the first level of education.

In 1981 15.5 percent of boys and 15.7 percent of girls between the ages of 5 and 9 - about 250,000 children were not enrolled in schools. Half of these have never been to school and others have left school without completing five years of education so that they are hardly functionally literate.

The result is that the educational status of girls and women is not as high as they are assumed to be in the light of literacy figures. In 1981 of the 10 - 29 age group, 8.2 percent of 246,999 girls and women had never been to school and 11.5 percent had only completed Grades 1,2,3 or 4.

National statistics conceal regional disparities and imbalances among population groups. In low income urban areas literacy and enrolment percentages are very low. This is true of girls in the estate sector and among Muslim girls in the eastern part of the island. Facilities for education vary from district to district. Also low nutritional levels of women add to drop out figures.

Research into educational levels of women have repeatedly shown that there is a co-relation between the educational level of the mother and the quality of life in the family in nutrition, family size, utilisation of health services and in agricultural productivity. At least five to eight years of education of women appears to ensure a satisfactory quality of life in the total population.

KITULAWA.

Kitulawa in the rubber growing district of Kalutara, forty five miles south of the capital, Colombo, is typical of Sri Lankan villages. It is a green hamlet, lush with vegetation and paddy fields. A stream meanders along one dege of the village enclosing, as it were, clusters of houses in which paddy cultivators, rubber tappers and workers who commute daily to nearby towns and estates, live.

During the era of D.S. Senanayake, the first Prime Minister of independent Sri Lanka, groups of rural people were settled in hitherto uninhabited areas. This was the outcome of new irrigation projects that took water to areas and made them cultivable and provided opportunities for people to live off the land. Massive irrigation works like the Minipe and Elahara schemes opened up hundreds of acres of land in the so called Dry Zone. Thousands of people found new homes and pursued agriculture.

This drive to bring back to cultivation lands which had been productive in ancient times had its repercussions in areas like Kitulawa which are not within the classical rice growing areas. Kitulawa is one of those neglected areas which have been resettled giving families land to cultivate and generally live off. No river or its tributary was impounded as in the major schemes to give Kitulawa water. Instead, the river running by was the source of water for the people of Kitulawa to meet all their needs.

The river is a tributary of the Kalu Ganaga which, like other great rivers of Sri Lanka, start in the hills and flow into the sea at coastal points, in this case at Kalutara (which means in Sinhala the place where the Kalu Ganga is forded).

When this process of re-settlement reached Kalutara in 1950, Kitulawa was the forest which supplied firewood and rattan (for weaving chairs) to neighbouring villagers. People from these areas, especially from the Grama Sevaka Divisions of Palatota and Heenatiyagala were given plots of land in Kitulawa.

With the plot of land each new settler was given Rs. 600 and free timber to build a house. In addition Rs. 75 was given for building a latrine and Rs. 275 for a well.

Pepper cuttings and coconut seedlings were also distributed.

Today, thirty five years later, Kitulawa is still called a 'Koloniya' by the neighbouring villagers. Koloniya is a derivative of the term colony or settlement, which in Sri Lanka has a special meaning of a new human settlement.

Though only two miles from the bustling city of Kalutara, Kitulawa has retained a unique rural atmosphere. It is bounded on one side by the river, and on the other by the acres occupied by the Sri Lanka Police Training School and its buildings. A well defined mud road cuts through the edge of the village and the houses are scattered, some nestling against the crest of small hillocks, others hard by the road.

Two hundred and fifty families (1200 people) live in Kitulawa whose major sources of income are tapping rubber, wrapping beedi (small cheroots), preparing metal for the roads and small scale agriculture. A small percentage of the youth commute to Kalutara and nearby towns as salesmen or taxi drivers -- especially during the tourist season which attracts many foreigners to the beaches and tourist hotels in and around Kalutara. Many school leavers are unemployed. Few, if any, have any knowledge of handicrafts and the village provides almost no resources.

Kitulawa is not an isolated rural community with special problems. It is one of the many thousands of Sri Lankan villages and urban groupings where the role of women in water and sanitation is a challenge, if met, will have a measurable impact on national health and economic well being.

In the last two years (1983 - 84) there has been a visible change in attitudes to earning, especially among the young women and girls just out of school. This is a direct result of the projects started in Kitulawa by the Sri Lanka Girl Guides Association.

Kitulawa was identified by the Girl Guides Association as a backward settlement in the Kalutara district. A baseline health survey conducted by UNICEF had revealed Kalutara to be high in the incidence of water borne diseases caused by impure drinking water and lack of proper sanitation.

Several meetings with the representatives of the Guides project, mainly Padmini Amerasinghe, Project Director and H.R. Samawathie, Project Leader, the leaders of the newly formed Guide Company in Kitulawa and the village leaders helped us in no time to establish rapport with the women of the village. These resource persons formed an informal project committee and also included the three research assistants who visited the village subsequently to conduct the survey.

The village leaders were by now familiar with questionnaires visits from researchers and even foreign visitors after the Guides worked with them for almost a year to provide them with a hundred latrines and six deep wells. The latrine project was financed by the Ministry of Health and the Guides themselves. The six wells were funded by UNICEF.

The message of Guiding was already accepted and put into practice. The girls and young adults were already trained to perform some volunteer work (the girls and women provided the manpower to sink one of the six wells with no other help).

The camaraderie they showed the research assistants and the cordiality which we received were sincere tributes to the Guides project and their happy influence on the youth of Kitulawa.

Our survey revealed that two hundred and fifty families lived in this settlement whose major source of income were tapping rubber trees in adjoining estates, wrapping beedi (small cheroots), preparing road metal and a small amount of agriculture-rice and home gardens.

There are 150 children in these families, below the age of five years. Pure drinking water was not being used. Most families were below the poverty line, living conditions were extremely poor and health facilities were inadequate.

In most vital areas the Guides had made a dent in the problems that were prevalent. A pre-school for the under fives was being built. Four sub committees of village youth had already been formed to deal with matters of education, agriculture, health and vocational development.

Three youth leaders had already started training to teach in the pre school and there was a further proposal to train 16 pre school teachers. An English class had been started for primary school children, as well as a spoken English class for school leavers and a non formal system of education for Tamil children from nearby Lagos estate who had had no schooling at all.

A Mothers' Group (Mau Haula) brought the older women into the thick of activities. This group met on Saturday morning in the vicinity of the pre school and it was here that we were able to meet and talk with them on matters of health, education and water after the individual surveys in their homes.

The National Institute of Health Sciences (NIHS) Kalutara had twenty three Public Health Nursing students working in the village for three months as part of their basic training. Visits were made once a week and the community's needs were assessed through discussions with mothers and youth leaders which led to the formation of the Mothers' Clubs and Medical staff of the NIHS assisted in conducting clinics, demonstrations lectures film shows and advised mothers in basic health practices.

Of the 250 families 10 do not have any possessions and these pay rent for the houses they live in. 232 own less than half an acre of land, 6 own one acre and one householder owns 4 acres. 234 families have no cultivable lands, 8 have half an acre of paddy land, 7 have half to one acre each and one has 1 to 2 acres of paddy land.

A few families own livestock - 9 have poultry, 15 have a few dairy cows and 2 have goats.

Families are, by today's standards, large. But by general standards prevailing in most rural areas in spite of inroads by Family Planning workers and vasectomy teams, a family of four to five or even seven is not considered large, unlike in urban areas where there is a growing tendency to limit children to two or three. Sons are very important in a family even if agriculture is not the family's means of living. (In the early and mid twentieth century a family was not complete without several sons who would help the father in cultivating the family holdings).

Kitulawa has a tendency to large families in spite of family planning services being at hand at Kalutara. One family has 11 children while 6 has 9 or 10 each. 13 families had limited their offspring to one and two, 107 have 6 children and 93 have 4 children each. 31 have 7 to 8 children each. In the light of small family incomes these are large numbers indeed.

13 of these families subsist on a bare monthly income of Rs.300 - Rs.550 while 112 earned over a thousand rupees each. In between these two extremes are 94 families earning between Rs.700 and Rs.1000, 31 earning between Rs.500 and Rs.700. (A US dollar = approx. Rs.27.50)



TABLE I.

No. in the Family	up to 300	301 - 500	501 - 700	701 - 1000	Over 1000	Total
1 - 2	-	2	1	7	3	13
3 - 4	-	8	12	32	41	93
5 - 6	-	3	13	45	46	107
7 - 8	-	-	5	9	17	31
9 - 10*	-	-	-	1	5	6
Total	-	13	31	94	112	250

\* includes one family with 11 members.

NUMBER IN THE FAMILY AND FAMILY INCOME.

The income levels are a key to the type of housing. Houses are generally ill ventilated, dark with little sun getting in, too few windows and too little space for many possessions. Majority of houses have mud floors, unbaked brick, wattle and daub and cadjan walls tiled roofs or roofs of corrugated sheets and asbestos and ill kept cement floors or clean smooth mud floors.

TABLE II.

Family Income. Rs.	Walls						Roof					Floor		
	Brick	Un baked Brick	Wattle & daub	Cadjan	other	Total.	Tile	Sprirugated Sheet	Cadjan	Asbestos	Total	Cement	Earth	Total
0 - 300														
301 - 500	1	7	4	1	-	13	3	-	8	2	13	3	10	13
501 - 700	10	12	7	2	-	31	12	4	15	-	31	10	21	31
701 1000	42	17	31	4	-	94	39	8	40	7	94	46	48	94
1000 & over	66	21	22	3	-	112	66	14	26	6	112	30	32	112
TOTAL	119	57	64	10	-	250	120	26	89	15	250	139	111	250

LIVING CONDITIONS AND FAMILY INCOME.

### SURVEY AND SURVEY FINDINGS.

This was the background of the village when we started the survey on women and water with the women of Kitulawa.

These women, like women elsewhere in rural Sri Lanka and the rural areas of the world's developing countries, carry their water from water sources to the kitchens of their humble homes.

#### Carrying water.

Unlike African women whose pictures we see often, the Sri Lankan women never carry water pots on their heads. Water is carried in clay pots balanced on the right hip, under the right arm with the arm supporting the pot. On paper this may sound a clumsy means of transport but it is indeed a graceful act and seemingly effortless. The clay pot is occasionally replaced with a precious brass pot and in recent years one sees women carrying water in a large plastic canister in the left arm, in addition to the pot on the hip. Water is hardly ever stored in the plastic cans as tradition and custom have proved to them that the water stored in the clay pot is clean, cool and fit for drinking.

Kitulawa being a small village, the distance the women have to carry the water is not great. But except in a few instances where the husband or the son assisted in carrying water at some time of the day, the main task falls on the women and the girl children. In households where the mother left for work early in the morning, the older daughters carried the water helped by the siblings. However, water for the cattle was mainly carried by the men, hardly ever by the women.

None of the women interviewed considered carrying water a chore as only 9 families out of the total 250 have to carry the water beyond a hundred metres. Even the women of these few families did not consider the water carrying a chore, rather a very vital part of the daily routine.

But we noted that in 66 families the mother was totally responsible for carrying and storing water for the family and in 10 families it was the young daughter who carried the water with no assistance at any time of the day. But in the majority of the cases (52) the distance was between ten and twenty metres. Only a few had to carry water without help for a distance of over hundred metres. In 127 families the mother and the elder daughter - often a school going girl - carried the water with no assistance from the rest of the family. Once again, 88 of these had their wells close to the house. Only 6 had to go more than a hundred yards.

TABLE III.

Who carries	below 10yds	10 - 20yds	21 - 30yds	31 - 40yds	41 - 50yds	51 - 100yds	beyond 100	Total
Chief occupants wife	25	20	11	04	01	04	01	66
Chief occupants daughter	05	02	02	-	-	01	-	10
Chief occupants daughter & wife	43	45	17	08	05	03	06	127
Chief occupants wife & son or chief occupant	10	14	02	02	01	-	01	30
Chief occupants daughter & his son or himself	01	02	02	02	-	-	-	07
Chief occupants wife, daughter, & another	03	04	02	-	-	-	01	10
Total	87	87	36	16	07	08	09	250

WATER CARRIERS : DISTANCE FROM WATER SOURCE.

TABLE IV

No. in the Family	Income upto 700/=						Income Rs.701 - 1000/=						Income above Rs,						Total
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
1 - 2	1	-	-	2	-	-	4	-	2	1	-	-	3	-	-	-	-	-	13
3 - 4	5	2	12	-	-	1	13	2	11	5	-	1	12	1	15	9	2	2	93
5 - 6	4	2	8	2	-	-	13	-	27	4	1	-	11	1	22	4	4	4	107
7 - 8	-	-	4	1	-	-	-	1	8	-	-	-	-	1	13	2	-	1	31
9 & over	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	-	-	1	06
	10	4	24	5	-	1	30	3	49	10	1	1	26	3	54	15	6	8	
<b>TOTAL</b>	44						94						112						250

THE WATER CARRIERS: WHO ARE THEY?

1. Chief occupants wife.
2. Chief occupants daughter.
3. Chief occupants wife & daughter.
4. Chief occupants wife & husband or son.
5. Chief occupants daughter & chief occupant or his son.
6. Chief occupants wife & daughter & another.

de c... shah and ke... on th...  
 ...  
 ...  
 ...  
 ...

#### Storing water.

Storing water is intimately linked with the family's economic status. It is universally accepted in rural homes that the best method of storing water is in clay pots, usually covered with a cleaned coconut shell and kept on the mud floor of the kitchen away from the hearth. In some homes the pots of water are kept placed on a thatched coconut leaf in a shady spot outside, but close to the kitchen. This is usually when the kitchen is small and mud floors are almost impossible to mop when water spills. Damp floors are one of the causes of respiratory ailments extremely common among low income families living in poverty conditions - both urban and rural.

#### Attitudes.

A striking feature of the women of Kitulawa is the difference in attitude between the older and younger women. Twenty two year old Tilaka, a housewife living with her taxi driver husband and aged mother-in-law impressed us with her attitudes to health, the relationship between water and health, healthy sanitation practices and the urgent need to break away from taboos and superstitions that perpetuated practices harmful to healthy living. Her home was an example of her thinking. Tilaka has studied up to the O Level grade in a nearby town.

Lack of education and the absence of influences from outside through most of their lives were apparent among the older women - some of them still under thirty but mothers of grown up children. Frequent pregnancies had taken their toll of the health of these young women and though they thought the idea of a Mothers' Union a good one they were not unduly interested in it. They smiled a great deal and did not show any apathy towards their household tasks, repetitive and dull though they seemed to our more sophisticated tastes.

One of the most heartening aspects of their routines is that none of them consider carrying water a chore. Walking to the well, leisurely filling the pot, at the same time spilling a great deal - washing the feet and having a chat is part of the social pattern and a break from routine (though they do not name it).

Does the act of balancing a pot on the hip and walking up a hill cause any discomfort? No, they smiled. Do they get backache if they have to carry more than the daily quota, say, for an alms giving or similar occasion? The neighbours help then, they replied disarmingly. Even in an advanced stage of pregnancy they continue to carry water.

Once the water is carried home it is used economically. Children are not allowed to spill water - not really because of waste but because the floor gets wet! Anyway water is used carefully, especially the pot kept aside for drinking. In some houses the drinking water is poured into a clay goblet covered with a net cover weighted down with coloured beads and kept on a table in the living room. A glass of water is customarily symbolic of good living, of hospitality. An invitation to a meal is a glass of water served to the guest with both hands.

Healthy and sanitary practices regarding water are not common among these families. Recently after the advent of health nurses from the NIRS some women have learnt that boiling water is necessary to prevent bowel disease but they are apathetic about this. The difference between the younger women and girls who have been to school and their attitudes struck us again and again..

Boiling water.

It is no use advocating cleanliness in water use and management to a family that cannot replace a battered rusty overused bucket without a cover. The economic position of the majority of families is well below the poverty line and advocates of healthy strategies in water use must take this into account.

Boiling, for example, is easier said than done. Firewood is comparatively easy to obtain in this village but boiling water on an open fire has its own hazards. Even families that accept and understand that boiled water is pure is too apathetic to do it every day. Certainly the water is heated and given warm when a child is ill or to anyone in the household who has a cold or a sore throat or fever.

243 families in Kitulawa depend on firewood for all their cooking and this includes 111 families of the highest income bracket - Rs. 1000 per month and above. Six households use kerosene oil for cooking and just one family uses the more refined and convenient LP gas.

Electricity is a luxury and Table 5 shows that those households that used electricity for lighting the house do not use this medium for cooking.

Kerosene is expensive in the light of the incomes of these households and when it is used for both cooking and lighting the house it is one of the highest items of expenditure to a family.

Households that have to stretch a gallon of kerosene (cost Rs. 48/=) for lighting and cooking basic meals cannot afford the luxury of using boiled water for drinking at such expense.

In these households if there is more than the usual family cooking for a function, for instance, - such cooking is done on open fires temporarily built outside the kitchen or in a make shift shed using firewood.



TABLE V..

Economy	Lighting				Cooking				Lavatory					
	Electricity	Kerosene Lamp	Paromax	Other	Total	Fire wood	Kerosene	Other	Total	Pit Private	Flush Private	Pit Common	Flush Common	Total
0 - 300														
301 - 500	2	11	-	-	13	12	-	1	13	2	11	-	-	13
501 - 700	1	30	-	-	31	31	-	-	31	9	19	2	1	31
701 - 1000	9	84	1	-	94	89	5	-	94	18	74	1	1	94
1001 & over	30	82	-	-	112	111	1	-	112	17	95	-	-	112
<b>Total</b>	42	207	1	-	250	243	6	1	250	46	199	3	2	250

ENERGY SOURCES AND FAMILY INCOME.

That there is a relationship between water and disease is accepted generally. But the majority belief is that these are diseases which are common to children - worm infestations, diarrhoea, chronic coughing. It was easy to understand this belief as children who stayed at home were most of the time suffering from one or more of these ailments.

TABLE VI.

	Fever			Cough			Diarrhoea			Worms			Anaemia			Fever & Cough			Fever & Worms			Total No. of persons who suffered by diseases	Total No. of families who used water			
	1 month	2 month	3 month	4 & Over	1 month	2 month	3 month	4 & over	1 month	2 month	3 month	4 & over	1 month	2 month	3 month	4 & over	1 month	2 month	3 month	4 & over	1 month			2 month	3 month	4 & over
Separate Wells	11	5	1	1	2	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	122
	11	14	3	2	1	4	1	3	1	1	3	2	1	2	6	2	1	1	2	1	1	2	1	2	61	73+1*
Separate Wells	2		3	1																					11	42
Same Well			1					1	1																07	12

TOTAL 250

\* one family used tap water

WATER / DISEASE RELATIONSHIP.

Usine Boiled water  
Un-boiled water

195 households used unboiled water for drinking though the mothers interviewed said that they knew boiled water was pure as they had been told during a health training session. But they did not believe this as they have been accustomed to thinking that cold water is cool and therefore tasty. Boiled water is for the sick only and especially good for old people suffering from arthrities or for asthma patients.

'Boiled' also has its own interpretation. Boiled does not mean that the water is kept on the fire long enough for it to bubble. It is merely warmed on the fire.

Healthy people do not drink warm water - it does not quench their thirst, they believe.

#### Wells.

Strict cleanliness is usually observed regarding the 'drinking' well in most rural areas. Communities usually have one 'drinking' water well and a common well for bathing the latter sometimes separated into two sections for men and women.

Rules are greatly relaxed at the bathing well, clothes are washed and soapy water is allowed to stream back in. Buckets and pots, even tins are used to draw water. But not so at the drinking water well where only one bucket is used, kept separately on a rough shelf close to the well or hung up with its special rope on the branch of a tree close by.

These are ideal situations - in some villages, the same well is used for drinking and bathing, washing clothes and if there is no stream or other waterway close by, for washing pets and cattle and goats.

Kitulawa is a mix of good and bad where wells are concerned, - but more good than bad, I felt, compared to some rural communities. 135 of the households had separate wells for drinking and bathing and these were privately owned. Private ownership of wells can mean better cleanliness better sanitation and healthier habits. ||

29 used a common well but kept strictly for drinking only. These households had another common well for washing and bathing. 77 used the same private well for drinking and bathing and washing. There were 9 who used a common all-purpose well.

TABLE VII.

Water source		Unboiled water	Boiled water	Total
Seperate wells for Drinking & Bathing.	Private well	103	32	135
	Common well	19	10	29
Use the same well for Drinking Bathing & washing.	Private well	65	12	77
	Common well	08	-	08
Total		195	54	249

1 Household uses tap-water.

WELLS: COMMON, PRIVATE, ALL - PURPOSE.

A private well, a separate well for drinking and another for other purposes are economic assets. Lack of these does not necessarily mean that the household does not realise the benefits such ownership brings in terms of healthy living. Nor does ownership naturally bestow on the household special awareness of cleanliness and use of pure water. The only reason why a household owns a well and keeps it for the family's exclusive use generally means that that particular family is able to afford a well. So in Kitulawa. The awareness of the benefits of keeping a well and its surroundings and the implements used in drawing water uncontaminated is just beginning to seep into the minds of the women. This is another direct result of the intensive action in this area by the Girl Guides and the personnel from the NIHS.

TABLE VIII.

No. in each family	Total No of Families	Cooking in Gals.			Drinking in Gals.			Washing in Gals.			Laundry in Gals.			Toilet in Gals.			Garden in Gals.		
		02	05	10	02	05	10	05	10	15	20	25	05	10	15	05	10	15	
01 - 02	13	3	5	5	3	5	5	6	10	11	15	16	21	30	31	05	10	15	
03 - 04	93	10	50	31	2	53	28	11	1	22	47	7	43	36	10	4	77	16	
05 - 06	107	14	31	50	12	35	46	25	1	21	39	26	21	33	47	14	137	29	
07 - 08	31	5	11	9	6	14	8	8	1	7	15	2	7	13	8	5	19	10	
09 - 11 *	06	-	1	3	2	1	3	2	-	-	2	1	3	1	3	2	-	3	
TOTAL	250	32	98	98	22	112	89	46	3	57	108	47	38	102	95	31	221	83	

\* Only one family with 11 members.

WATER USES DURING THE DAY.

WATER AND HEALTH.

There is a fundamental belief that giving communities water, teaching them to make that water safe and providing them with latrines automatically improves their health. Our findings at Kitulawa cast some doubts on this view.

The benefits of new and improved water sources and proper disposal of human waste where the earlier methods were primitive are doubtless felt by the people. Even their basic knowledge of sanitation is enough for them to realise that siting of wells and latrines has a co-relation, that impure water can cause certain diseases, the germ theory and the dread hookworm is caused by defecating in the open. In spite of open criticism of some aspects of the wells and the latrines in the new Guides/UNICEF project there is a sneaking pride in the new wells and latrines and a grudging admission that they have added to their status and made their village a showpiece.

This project has had an impact in a greater awareness of health related factors, slightly more positive attitude to use of water, less waste and the importance of keeping surroundings of wells and the insides of latrines clean.. But we did not observe a significant health impact that could be attributed to these improvements in one year.

But it must be admitted that it is difficult to get information about the history of disease from mothers who usually forget these incidents. Diarrohea details particularly are difficult to get and the degree of the diarrhoea almost impossible. Where mothers do remember they do not like to admit to an outsider that the children in the household had so many incidences of diarrhoea which she has just discovered can be the result of insanitary living - naturally she does not want to be classified as a careless or negligent mother!

Also no definite conclusion can be drawn unless comparative studies of similar villages are done.

The history of diseases in the households which use boiled water for drinking and those that do not are shown in table 6. It must be emphasised that boiling water is emphatically not related to disease in the minds of villagers and boiling also means in the majority of cases merely heating the water. Even when water is boiled no precautions are taken to see that the water is kept uncontaminated.



FLOODS.

Floods come to Kitulawa with tragic regularity and has a bearing on every aspect of life of the people.

Talk of water to the householders and invariably they talk of floods. Floods are an act of the gods, meant to distress the people when the gods are angry, they believe.

They also know that the Kalu Ganja which flows less than three miles away swells when it rains and this is also a reason for the floods that disturb their lives. But hard facts of life often get hidden in the light of beliefs they have lived with all their lives. As often it is easier to blame the gods than look for scientific reasons.

Ironically during floods when there is water everywhere drinking water is hardest to find. The wells at the lower levels of the village get inundated and there is a special trek up the hillocks to get water for drinking. This sharing brings bad feeling and the women mentioned that periods of floods are their most difficult times.

Though measures are being taken to prevent lack of drinking water during floods (the UNICEF/Guides six tube wells, for instance) the majority of villagers use well water during floods if the well overflows with flood water. The belief is that then the water is not polluted. If the well does not overflow and the water stagnates then they look for other means of getting drinking water as stagnant water is polluted by flood water.

After the flood waters recede the wells are customarily cleaned and the water is used for drinking. It is believed that during floods, the water is not safe as flood water contaminates the well water and brings with it germs of disease, mosquito larvae and has a cloudy, unhealthy appearance. After floods there are dead worms in the water which cause a bad smell and even if there is no smell using this water can lead to disease, especially hookworm, they believe.

As flood water recedes diseases known to the villagers as diseases of the gods (deyyanne leda) strike them. Children are the worst afflicted. Chest ailments bowel diseases are commonest as well as afflictions of the eye. It is interesting to note that the majority of women said that during these times water is given warm to anyone who is ill, child or adult. 'Warm' - does not mean boiled and cooled, It means warmed on the fire so that the warmth is comforting especially if one has a sore throat or a chest ailment.

The women were also aware that water stagnating in the low lying areas of the village contributed to bad smells, flies, mosquitoes and sometimes faecal matter floated on the surface. Even among those who realise that floods are not the work of angry gods there is a frightening apathy to the misfortunes that floods bring. The best method of coping is to wait for the floods to recede and hope for the best till the next time they hear the frogs croak at night and know that another flood is imminent.

## COMMUNITY PARTICIPATION.

A great deal of interest has emerged in recent years in community participation in development projects. Water and Sanitation is no exception.

In Sri Lanka community participation has been known from the times of Sinhala kings. Working together on common projects in agriculture was the rule in ancient times. Today in rural areas community participation is apparent in sharing labour, in give and take in agricultural work or even in domestic activities, as in thatching a roof.

What is new today is that this principle is being used to bring basic services to increasingly large numbers of people involving all the people in an entire community working together to improve their lives. In recent years there has been a world wide acceptance and understanding of local initiatives and a concerted effort is being made to bring this basic approach to villages, shanty towns and slums especially to areas which have not been reached by basic services.

The deep wells program which the government has initiated for the rural areas of Sri Lanka was based on considerable community participation along with the Gramodaya Mandalayas. Before the wells are provided a series of discussions take place to get the ideas people have about water and their willingness to participate and how they view a new water project to their village. Most planners feel that a great deal of information can be gathered this way at this stage of the project which can be helpful to plan what is best for the community and how best the community can participate. As the people are the beneficiaries their willingness is apparent and forthcoming, especially at the initial stages.

In some of the rural water projects by international agencies (IRC, DANIDA, UNICEF etc.) shramadana (free labour) work in excavation providing locally available materials as the contribution of the people considerably reduced expenditure and in some instances made possible work that was earlier considered not practicable due/<sup>to</sup>want of funds. In some deep wells programs the people built the aprons cheap and also assisted in fixing the hand pumps and were trained to be caretakers of the pumps, easing maintenance costs. Siting wells was also undertaken with the co-operation of the people in some of the projects. In some of these women too participated.

At first there was some resistance from the community at Kitulawa when the Guides started their feasibility study.

The first reaction was that this was 'another election stunt' and initially the people were un co-operative as politically they were divided and would have no part in any activity initiated by the 'other side'.

The team made the temple Amarasingharamaya their focal point in the village and several nutritional projects as Kola Kenda were initiated as an entry point to training in water and sanitation programmes for the women. The women proved to be responsive and were able to dispel the idea prevalent (mainly among the men) that this was a political 'stunt'. As the mothers realised the prospective benefits of nutritional programmes for children they became more responsive. This was the beginning of the formation of Mothers' Clubs.

This was followed by another health related programme in which 22 public health nurses came every Saturday to Kitulawa for three months and carried out informal health surveys in selected homes - starting with homes where there was a pregnant mother or an infant.

This had a 'fine response' in the words of the Guides Project Director. Community participation for the Water project was won through the health and nutrition interventions - child care training, maternity welfare, public health and demonstrations in family planning, and preparing nutritious food from ingredients available in the neighbourhood.

Through this programme it was possible to select 20 young village leaders who then requested training at the NIHS in first aid.

With the initiative of the young leaders it was easy to interest the mothers and then to enlist the younger girls who later formed the first ever Little Friends Company in Kitulawa.

All this was hard work. Initial reactions from the men were difficult to break down.

You will come and go and we will be where we are was the comment of the men. They were all cynical as various organisations that had started doing some work there had left half way. One NGO had tried to start a pre school, another to build a road and form a women's group. All had been given up - no convincing reasons these.

The Guides braved the cynical first reception and through various programmes were able to win the confidence of the young people - maybe because the Guides themselves are young and keen.

Six months after the project was completed and we moved in it was interesting to listen to the community's views on the water and sanitation project.

There was deep dissatisfaction at the siting of the wells though the community was consulted over this.

In one case a tube well was built where a family's old well was - the old well was deepened and built over. The family has now fenced this portion of their land and 'owns' this well and does not allow anyone else to use it. The result is that the village has access to five tube wells, not six, for general use.

We would never have allowed siting a well in that particular spot, one householder said, bitterly,

All that community participation meant to another was that his women had to dig a well. (Women and older girls provided voluntary labour along with the Guides to dig one of the six wells). Does community participation only mean free labour, then?

One beneficiary complained that only the members of one political party are generally consulted by the teams visiting the community-those that belonged to other political parties were ignored completely.

'The water in the tube wells is of a red rusty colour and bathing in it makes the hair brown,' a woman said.

A man joined in saying that in one well the pipes had to be replaced with PVC pipes because of the rusty water. But this has brought on another problem as now the pump is 'tight' and the women cannot operate it. So that well too is out of commission most of the time.

Most of the community used water from the tube wells only for washing as they do not believe that it is 'safe' for drinking. One woman said that at the beginning the water in the tube wells did not have a rusty taste but after a few weeks the rusty taste was evident. 'The tube wells have not been cleaned even once, therefore we do not like to drink water from them,' one woman said. In most rural areas cleaning a well is regularly done.

They have their own private well for drinking but tube well water is used for all washing purposes.

One household complained that they had no place for a drinking well in their plot - earlier they had one located on low lying land but one of the new latrines was built above it and the water is polluted so the family has abandoned it for drinking.

During the drought they have to 'borrow' water from neighbours and this has created a lot of ill feeling and resentment.

One householder was enthusiastic. He said that he found the tube wells very satisfactory as wells were earlier located on low land almost flush with the paddy fields and when floods came the water was undrinkable.

An old man scoffed at the whole idea of wells.

What is the use of wells and latrines he asked, they should have first done something about the floods!

The initial thrill of the new wells has waned. The villagers - especially the older people - regret the new system and long for the old.

The young, however, continue to be well pleased with Kitulawa's new tube wells. Kitulawa's young people clearly have responded to new ideas of safe and convenient water. Their elders who came to Kitulawa 35 years ago and dug their own wells seem to have got used to the old order and see no strong reason to change.

BELIEFS ABOUT WATER.

There is an undoubted connection with trees and 'good' water in the rural mind. The more trees that surround the well the better the water. Trees make the water pure and cool.

Certain kinds of trees are specially favoured because it is believed that their roots in the base of the well purify the water. One of these universally accepted as a water purifier is kumbuk. The red ixora (Rathmal) makes the water pure as does the Wathusudda a fragrant jasmine variety.

Fish in the water are also believed to purify water. Fresh water fish of the loola and ara species are specially good. Often these varieties of fish are cultivated in the well - one theory is that they eat the slime and prevent contamination by slime. But one householder was of the view that slime was a purifying agent for well water and a well with slime produces pure water. However, he too believed that fish were good, but not because they ate the slime. Fish in the water was good, per se.

Rock formations underground were the best sources of water. Wells which obtained water from rocky soil produced water that was cool - scientifically not correct as gravel is considered a good filter, but not rocky soil.

Wells must be kept open. If they are covered it must be with a broad gauge mesh so that sunlight can filter in.

Sunlight is all important in keeping water fresh and pure. Sunlight prevents impurities, prevents water from getting impure and removes any disagreeable taste. Water need not be boiled to make it pure if sunlight falls on the water.



Running water is good (meaning safe to drink). But the best water for drinking is water from a deep well into which the sunshines. Flowing water is not good during floods.

A rim round a well is good to prevent dirt from getting in. But building the base of a well is not favoured as then they believe that water from the springs cannot flow easily into the well.

A wall round a well is favoured to prevent flood water from flowing in.

Drains should be dug to carry away used water from the well. Stagnant water near the well causes hook worm. Wells in low lying areas cave in as the soil is loose - these wells are not favoured much for drinking water. Safe water for drinking is obtained from wells on higher ground.

Stagnant water near wells is discouraged. Kabook soil is considered good soil for wells and the Kabook filters the water. But there is also the belief that kabook soil is not good as the beneficial effects of kumbuk roots are prevented as the kabook obstructs the roots from getting into the well.

Rain water and well water should not mix - this gives water a bad taste.

Wells should not be near latrines - the faecal matter can pollute the water and give rise to flies, mosquitoes and bad smells as well as germs.

Water has a sacred aura - running water is used in folk ceremonies. Disease is caused mainly by the gods. Traditional sources of water are sacred to the people as they and their parents have used them for over thirty five years.

Water must be available all the time and all the year round - the presence of mud indicates that the water is unsafe. This water is unfit for drinking. But running water gets purified by the act of running - as against stagnant water. Flood water is coloured water and when the discoloration disappears it is good.

Boiled water is abhorred for drinking - the taste is not good. Boiled water is dead water. Fresh water is cool, fresh and alive, and therefore the best drink.

OBSERVATIONS

&

RECOMMENDATIONS.

- \* As in many water supply and sanitation programmes, the latrine and wells project in Kitulawa lacks basic elements of communication and information to women on the relation between water/sanitation and health and on health practices which must be introduced parallel to programmes if they are to have any impact on health.

The Guides have made a beginning in health training and the Water and Sanitation Decade Service has had a workshop on this in Kitulawa, in addition to the nurses' programme mentioned in the report. These have to be stepped up and complemented by regular classes in health training which should be taken up by an agency like the National Institute of Health sciences as part of their overall health training programmes in the district. At least some of these programmes should be women specific.

- \* There is the frequent complaint that women are excluded from the planning and implementation of water and sanitation projects, though it is the women who often determine the success/failure of the project.

In Kitulawa there have been attempts made to involve the women - as well as the men - in feasibility discussions before the provision of wells. These have not been enough and not intensive in the light of the apathy of the women. We recommend that in future programmes the younger women who are more responsive to new ideas and with the basic education have some knowledge of the importance of water and sanitation in the prevention of disease, be the target groups.

- \* The cultural context and the level of knowledge of the communities and the specific needs of women are not taken into account in Water/Sanitation programmes.

We feel that it is unwise to attempt to wean women away from cultural practices. Rather, new information must take these into account and blend the benefits of such beliefs into new teaching, try to minimise the useless/harmful aspects of such beliefs, and make the best use of linking the old and the new.

Some strategies have to be devised to see that women do not go back to using polluted surface water as has happened in Kitulawa when eg. a pump does not function, when the taste is not to their liking or when the water has an adverse effect on skin or hair.

A basic training in maintenance and repair of pumps is called for. More intensive health education is the only strategy that can effectively deal with water use.

- \* Water should be made the entry point to other development programmes - nutrition, health education, community development, primary health care, promotion of more positive attitudes towards hygienic use of pots, cans, and other vessels used to transport water, to draw water from the wells and in storage.
- \* Low cost alternative methods of boiling water or effective methods of filtering water to make water fit for drinking are vital needs in this community - with intensive education to stress on the women the importance of boiling water for drinking.
- \* Women as change agents: to make a beginning in changing the passive role of the women to that of change agent in the community, which women can be in all stages of water use and management, we recommend that
  - . the target group be the young women - with leadership provided by the new Guide Company of which most girls in the village are members.

Educating the very young in the schools and motivation through community programmes for the young is the best foundation for healthy use of water/sanitation in the future.

These may be formal or combined with non formal methods now being introduced into community development programmes - eg. the UNICEF promoted puppet programmes, radio quiz programmes (recorded in the villages) and through learning materials carefully prepared with the particular client in mind and of course verbal communication. In Sri Lanka the radio is an effective tool<sup>to</sup> carry messages to the remotest areas as almost every household has a radio. Even with the high literacy rate among women the print media is not as effective, it has been found, though in many spheres the pamphlet is a good means of communication with rural communities.

Though a very small beginning has been made in training women in the technological aspects of pump care and amintenance, we feel that this is not an area that NGOs and rural communities can launch on with their limited resources.

In the field of technology, women can be best served by providing them with alternative and cheaper sources of fuel for boiling water, secure storing vessels with fitting lids, using available ingredients to make soap (to cut costs of buying soap) and less wasteful and more economical models of stoves and cookers.

In terms of training women to manufacture, repair and maintain pumps, a breakthrough is now seen in the old myth that women and technology do not go together.

New and dynamic strategies are urgently needed to win full and continuing community participation - of both men and women. These must attempt to cut through political, class and other barriers even in small communities. Action plans and techniques must reach out and make full use of talents at all levels. The prevailing misconception that community participation is a synonym for free labour must be overcome. Increased recognition must be given to the participation of women in the home, community and as members of decision making panels. In the light of poverty and ignorance that prevail in most rural communities in the developing world these may seem to be Utopian dreams. But they must be achieved if women are to be full and complete partners in water/sanitation projects.

BIBLIOGRAPHY.

1. Government of Sri Lanka Draft Plan for International Drinking Water Supply and Sanitation Decade 1981 - 1990  
Vols. I and II July 1980 - Ministry of Local Government, Housing & Construction.
2. Status of Women Sri Lanka : University of Colombo (1979).
3. Female Education : Dr. Swarna Jayawera, Workshop on Role of Non Governmental Organisations in Child Survival and Development April 1984.
4. Economic Review Nov/Dec 1984 Peoples Bank, Sri Lanka (Special issue on Water Supply and Sanitation).
5. Domestic Use of Water and Sanitation - a behavioural study in two selected areas in Sri Lanka - H.I. Karunadasa WHO/NWSDB Sri Lanka, 1982.
6. Strategies for enhancing women's participation in water supply and sanitation activities : recommendations of the Inter Agency Task Force on women and water of the IDWSSD Steering Committee for Co-operative Action.
7. Not by Pumps Alone Sumi Krishna in WATERLINES, April 1985.
8. Women, Water and the Decade - WASH Technical Report No. 6 by Mary Elmendorf, consulting Anthropologist.
9. Strategies for enhancing Women's Participation in Water Supply and Sanitation activities.

WOMEN AND WATER HOUSE SURVEY QUESTIONNAIRE.

(1) Household

- | 1. No. of members | Relationship to chief householder | Age | Sex | Employed | Educated up to |
|-------------------|-----------------------------------|-----|-----|----------|----------------|
| 1.                | Chief Householder                 |     |     |          |                |
| 2.                |                                   |     |     |          |                |
| 3.                |                                   |     |     |          |                |
| 4.                |                                   |     |     |          |                |
| 5.                |                                   |     |     |          |                |
| 6.                |                                   |     |     |          |                |
| 7.                |                                   |     |     |          |                |
| 8.                |                                   |     |     |          |                |
| 9.                |                                   |     |     |          |                |
| 10.               |                                   |     |     |          |                |

(2)

2. Estimate of land ownership

Paddy

Highland

3. Livestock      a. Poultry      b. Dairy      c. Goats      d. pigs.

4. Income generation - a. employed      b. self employed - how and where

5. Monthly income. -

(3)

6. Type of house

- :
- a. Brick
  - b. Unbaked brick
  - c. Wattle and daub
  - d. Cadjan
  - e. other

Walls

- a. Tile
- b. Corrugated sheet
- c. Cadjan
- d. Asbestos

Roof

- e. Cement
- f. Earth

Floor



- 7. Lighting
  - a. Electricity
  - b. Kerosene Lamp
  - c. Petromax
  - d. Other

- 8. Cooking fuel
  - a. Firewood
  - b. Kerosene
  - c. Other

- 9. Lavatory
 

	Private	Common
a. Pit		Pit
b. Pour flush		Pour flush
c. Bush		Bush

(4)

- 10. Health status disease      H.member      When last contacted      Treatment
- a. Fever      .....      .....
- b. Cough      .....      .....
- c. Diarrhoea      .....      .....
- d. Worms      .....      .....
- e. Anaemia      .....      .....
- f. Other      .....      .....

- 11. Water source      Drinking      Bathing      Washing and other uses
- a. Private well
- b. Common well
- c. river/stream
- d. Tap (Private)
- e. Common tap
- Distance from home      .....      .....      .....

(5)

12. Water

- a. Who draws and carries water home
  - Mother'
  - Daughter
  - son/s
  - father
  - others
- b. At what times per day
- c. quantity (how many pots)
- d. What other vessels are used
- e. How stored

13. Water Usage	Quantity per household	Who brings	Storage	Source	Distance
a. Cooking	.....	.....	.....	.....	.....
b. Drinking	.....	.....	.....	.....	.....
c. Wathing	.....	.....	.....	.....	.....
d. Laundry	.....	.....	.....	.....	.....
e. Toilet	.....	.....	.....	.....	.....
f. Garden	.....	.....	.....	.....	.....
g. Livestick	.....	.....	.....	.....	.....

(6)

- 14. What happens in times of floods regarding water?
- 15. Is there a connection between water and bowel disease?
- 16. Is water boiled before drinking? .....Why.....
- 17. Do they use the same water source (ewell, tap etc) for drinking, bathing bathing and washing clothes?
- 18. Traditional beliefs about water, rain and floods?
- 19. What water is safe for drinking?
- 20. Does using the open areas for defecation pollute the water supply?

Other information,

