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**POTENTIAL AND CONSTRAINTS  
FOR INCREASING THE SUCCESS OF  
RURAL WATER SUPPLY AND  
LATRINE CONSTRUCTION PROJECTS  
THROUGH COMMUNITY PARTICIPATION**

**A STUDY OF  
FOUR VILLAGE LEVEL PROJECTS  
IN SRI LANKA**

**New Delhi, India  
1985**

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## PREFACE

This report summarizes the research carried out by the Micro-Level Socio-Economic Studies Division of the Marga Institute. The work was undertaken for the World Health Organisation, the Sri Lanka National Water Supply and Drainage Board and the project's steering committee was appointed by the Ministry of Local Government, Housing and Construction.

The research was conducted in four villages and the following fictitious names are used for these locations: Ogalagama; Kahandatuduwa; Pahalagama; Suriyagamuwa.

This study attempts to provide guidelines on how community participation could aid in the implementation and running of rural drinking water supply and latrine construction programmes.

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## AUTHOR'S NOTE

The nature of the research work has meant that a degree of controlled speculation characterizes parts of this study. Speculation is always risky. But if a detailed empirical study of village life is to be turned into an instrument that decision-makers can use for improving rural drinking water supply and construction projects, speculation is essential. And in this study all speculation is based on case material collected by patient and experienced field workers and analysed by senior social scientists.

There are however, some methodological limitations in a short-term field study such as this. Two months is too short a period in which to win the trust and confidence of the people. Studies of this kind usually go on for 12-18 months enabling field workers to collect high quality data.

A second problem is that the researcher is introduced to the village through its leaders and is automatically assumed to have close ties with them. In such a short-term study there is a strong tendency for villagers to respond to the researcher's questions with answers which they think will be socially acceptable to the leaders.

In addition, if the researcher discloses any connection, official or unofficial, with the government or one of its agencies, villagers will provide answers to questions which they think the government would like to hear.

The field researcher in such a brief study is identified by respondents as an outsider. This affects the replies to questions in two ways. First, the villager considers what outside assistance could be obtained for the village through the researcher. Second, the respondent wonders what benefits currently enjoyed by the village might be lost as a result of the study.

Finally, the pre-project data base is lacking and none of the projects has been in operation long enough for an overall impact study of community participation to be attempted.

Sunimal Fernando

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## **1. THE STUDY**

### **1.1 Background**

The study examines the viability of community participation at all stages in the life-cycle of water supply and latrine construction projects. In 1981, DBMW van Dusseldorp categorized the life-cycle of development projects into six different but interrelated stages (listed below) and these categories have been adopted for this study.

1. Formulation of goals, objectives and targets.
2. Research, survey, inventory and stock-taking.
3. Preparation of plans.
4. Plan acceptance.
5. Plan implementation, operation and maintenance.
6. Evaluation.

### **1.2 The Study Aims**

The objective of the research is to study 12 aspects of community participation at each stage in the project life-cycle. These are:

1. To study the processes and structures through which different sections of the recipient communities participated - if at all.
2. To study the structural, procedural, administrative and political factors which constrained the participation of different sections of the recipient communities.
3. To study the formal institutional arrangements, if any, which facilitated community participation.
4. To study the different types of participation which occurred. Whether it was free, spontaneous, induced, forced, customary, direct, indirect, organized or unorganized, and to examine the reasons why it took the form it did.
5. To analyse whether community participation may or may not have increased the effectiveness of the project.

6. To analyse whether a greater degree and/or a different type of community participation could increase the project's effectiveness.
7. If a greater degree or different type of participation is recommended, then the study will provide guidelines on how existing constraints could be overcome.
8. To study the level of knowledge prevalent in the recipient communities regarding the relationships between health, water use and excreta disposal.
9. To study the prevailing practices in the villages regarding water use and excreta disposal and to gauge the extent to which prevailing practices are unhygienic.
10. To analyse the extent to which unhygienic practices persist because of the lack of knowledge about hygiene or because of socio-economic factors.
11. To study the community's perceptions of the relationships between water, health and excreta. Find their sources of origin, why the views are sustained and assess the degree of community acceptance of these ideas.
12. To provide guidelines on how modern health education can be effectively communicated to the villagers and to recommend ways of developing more effective institutional arrangements.

### 1.3 Data Collection

The following blocks of data were collected:

1. The design and capacity of each project.
2. The functioning of each project's facilities.
3. Sources of water - traditional and project-derived.

4. A socio-economic profile of each community.
5. The perceived importance of drinking water supply and sanitation relative to other perceived needs.
6. Community participation throughout the project life-cycle.
7. Post and pre-project knowledge, attitudes and practices pertaining to domestic and personal water use and excreta disposal.

#### 1.4 Survey Methods

Qualitative and quantitative field information was obtained using seven data collection methods. These were:

1. Key informant interviews.
2. Open-ended interviews of a sample of husband/wife units.
3. Participant observation.
4. Examination of reports and files.
5. Household survey by administering a questionnaire to husband/wife units.
6. Discussions with husband/wife units following the questionnaire.



Contrasting supplies in the same village. Above: the open, unprotected well is a clear health risk. Below: Safe water is drawn from a public cistern. But is disease prevention the incentive that planners believe it is?



## 2. PEOPLES' PERCEPTIONS

### 2.1 Background

To a very large extent the degree of voluntary community participation in a project is determined by the importance attached to the project by beneficiaries. In turn, the perceived importance is determined by the degree of success or failure in promoting health education.

### 2.2 Health Education

New knowledge on water, sanitation and health - the importance of boiling water before drinking, hygienic methods of human excreta disposal, immunizing children against infectious diseases, deworming children at regular intervals, etc. - is viewed by villagers as "speculative suggestions". If their own casual observations verify this new knowledge, they will absorb it into their "stock of common knowledge".

However, this knowledge will only bring about changes in water use and sanitation practices when villagers see an overall benefit.

### 2.3 Perceived Benefits and Costs

It is vital to recognize that local people may assess the real and potential benefits of water supply and sanitation projects very differently from the planners. The contrast is perhaps most vivid when considering the prevention of illness.

To the planners, seeing diarrhoeal diseases and helminthiasis as major causes of hospital morbidity in Sri Lanka, it is natural to place a high priority on developments which will reduce these debilitating diseases.

In the four study villages, on the other hand, a very low value is placed on preventing illness since illness does not disrupt the normal pattern of work. If an individual falls sick, another member of the family will carry out any urgent work. In any case, there are very good health services at hand.

This will be taken into account when villagers are deciding if it is worth, for example, spending more time and effort in obtaining clean water from a more distant, new source.

Perceived costs involved in adopting a new water source could include, for example, undesirable pipe tastes.

These costs and benefits may vary during the year so that the benefits for an individual family may exceed costs only in the dry season.

In the case of latrine construction, there are two main perceived benefits. First, it saves considerable time for those families who must otherwise walk long distances to scrub jungle for defecation. This applies especially to women since men generally travel greater distances in connection with their daily work and can therefore reach scrub jungle more conveniently. Second, a latrine brings increased status to a family because it indicates a more modern life-style.



More convenient than the jungle, and a symbol of modernization. These are probably more persuasive reasons for building a latrine than the anticipated health benefits, so far as rural people are concerned.



### 3. VILLAGES IN SUMMARY

#### 3.1 Introduction

The four case studies provide a valuable insight into the factors influencing community participation. Each of the studies is detailed in chapters 6-9. Below are a few salient characteristics of each village project.

#### 3.2 Kahandatuduwa

This village had the most successful water supply project of the four villages under study. This is largely because the village leaders, negotiating with the authorities for the project, had the same needs as the community as a whole - more accessible drinking water supplies in the dry season. They therefore represented the true common interests of the whole community.

In addition, villagers managed to suggest modifications to the plan, though not invited to do so, and their ideas were accepted. At the implementation stage, politically powerful village leaders tried to change cistern locations and were only stopped when the technical officer appealed to the MP.

Kahandatuduwa successfully adopted informal arrangements for overseeing the operation and maintenance of project facilities.

#### 3.3 Ogalagama

There was a clear need for improved water supplies in the poorer part of the village. The village leaders, however, secured a project which benefited people who had little need for additional supplies. These local leaders provided biased data which led planners to decide on a piped system with house connections which benefited mainly affluent householders and shop owners.

In order to ensure that shramadana (voluntary labour) was provided, the planners had to give the village elites a material stake in the project. The mass of the community remained ignorant of the fact that they were unlikely to benefit from the project in the foreseeable future.

### 3.4 Pahalagama

There was no perceived need for improved water supplies but the village pressed for a water supply project in order to bring "modernization" to the village. The village leaders were invited to apply for a World Bank-funded tubewell and their application was successful.

The project was a disaster for the community. A condition attached to the project was that the community centre should undertake construction. Noone in the village had the necessary training or experience and as a result two up-and-coming community centre officers incurred heavy personal losses. They pulled out of all community affairs and the community centre collapsed.

### 3.5 Suriyagama

Improved drinking water supply was not a strongly felt need in the village but poorer sections of the community living on higher ground had more difficult access to water sources in the dry season.

The village leaders made a carefully tailored application to the authorities for a tubewell project under a UNICEF-sponsored programme. Their principle aim was to bring modernization to their village.

However, the project that emerged entailed tubewells being sunk along the main road where wealthier families live. Numerous appeals were made by families on higher ground to site some of the wells in their area but the authorities stubbornly refused, giving no explanation. Continued protests resulted in the technical officers refusing to carry out the project. Fearing the village would lose the entire project, those complaining agreed to accept the plan in its original form.

#### 4. PRINCIPAL FINDINGS

1. A plan formulated with community participation will, when implemented, benefit a greater number of people than if formulated by technical planners and village elites holding office in village institutions.

2. The degree of voluntary community participation is determined by the importance attached to the project by beneficiaries. Illness prevention has a low value to the villagers and new knowledge on water, sanitation and health is regarded by villagers as 'speculative suggestions'.

3. When village elites become involved in negotiations with outside agencies, they express their own needs at the expense of those of the whole community. Only when the elites have the same needs as the entire community (as in Kahandatuduwa) do they honestly represent their village.

4. Elites will press for water projects not solely to improve supplies but also to enhance their status and leadership roles in the community.

5. Even when there is no perceived need for improved water supplies, the community will press for a water project because they see this as a step towards modernization. In addition, they feel that the project will attract the district administration's attention to their village and perhaps bring further development projects.

6. Elites will provide data which is slanted to emphasize the needs of affluent sections of the community. They will present data which favours 'modern' technology.

7. Since local level development comes largely in the form of hand-outs from the State, villagers are prone to provide data that will qualify them for receiving hand-outs.

8. It is very unlikely that people or groups will criticize a plan - however dissatisfied they might be - or suggest any modifications. They fear that the project might be withdrawn and the village might gain a reputation for being troublesome.

9. If a project is not responding to a strongly felt need, community participation through shramadana (voluntary labour) will not be spontaneous. The planners will manipulate the community, giving the affluent villagers a material stake in the project to ensure that they will activate social relationships and force the mass of the community to contribute free labour.

10. Politically powerful village leaders may attempt to interfere during the implementation of the project. Government officials working at the village level will not be able to go against the interests of these elites unless they are backed by a countervailing power such as the local MP.

11. Village leaders are not interested in maintaining projects since they will gain little political or social benefit from doing so. Therefore, it is the project beneficiaries and not the village leaders who should be mobilized by planners for improving operation and maintenance.

12. Since the four village projects were implemented, there has been no monitoring or evaluation; nor has any institutional arrangement been set up to perform these tasks.

13. The inclination to construct latrines becomes stronger with the increase in the time taken to reach the scrub jungle for defecation. This particularly applies to women.

14. Construction of a latrine is seen as a step towards modernization.

## 5. RECOMMENDATIONS

1. Planners must determine whether or not they are responding to a high priority felt need in the village by perusing records of village institutions and the types of requests these institutions have made previously to the Government.

2. If a project identified by the community has to be modified on grounds of technology, there should be direct discussions between the technical officers and the potential beneficiaries who formulated the original proposal. Otherwise, 'technology' can easily be used to justify a decision that has been taken on grounds other than technological ones. The two parties should probe their combined knowledge and information so that a project can be formulated which is both technically sound and as close as possible to the original proposal.

3. The necessary research for plan formulation should not be conducted by people within the recipient community. An outside social scientist should carry out the research. (see Recommendation 5).

4. Technology should be chosen only after the water supply or sanitation problem has been correctly identified and evaluated. Village elites can otherwise lead planners to adopt a technology which disproportionately benefits a small section of the community. It is interesting to speculate whether a thorough evaluation would have led to rainwater tanks being funded instead of a piped system in Kahandatuduwa.

5. Government agencies should not induce village-level institutions to undertake the management of activities for which they are not equipped or trained.

6. Pre-formulated plans should be open to modification so that specific local conditions can be taken into account.

7. Training is needed to form a body of 'village level facilitators' through whom the planners, on one side, and diverse sections of the community, on the other side, could communicate. These facilitators could be village or district level officers of government agencies or people from non-governmental agencies. Preferably, they should be from outside

the village and hence uninvolved in village conflicts. These facilitators should start working in the communities long before the project starts. The personality of the individual and the extent to which the community respects him/her will be matters of considerable importance.

8. Planning authorities should encourage people to send in their criticisms and suggestions for plan modifications. These submissions could be made anonymously. All their views should be carefully evaluated and a final decision on appropriate modifications could be taken in conjunction with the MP.

9. For maintaining project facilities there should be an institutional bridge between the beneficiaries and the technical operators. This would help the two parties understand one another's problems. A water committee comprising technical people in charge of project operation as well as beneficiaries could be appointed to monitor and report on the project's operation. However, the beneficiaries would need some basic training on the technical aspects and the operators would need elementary sociological training.

10. Informal rather than formal arrangements should be set up for maintaining facilities. By locating a cistern with tap on someone's private land it was possible to motivate the owner to oversee operation and maintenance. This has proved better than legally acquiring the land for the state. Kahandatuduwa adopted this informal arrangement and this could be replicated in other rural water schemes.

11. The National Water Supply and Drainage Board could set up an evaluation unit in such a way that its membership is fairly independent of the Board. The unit could comprise a rural sociologist, a micro-economist and a sanitary engineer with an administrative support staff. This unit could also carry out research needed for plan formulation.

## 6. OGALAGAMA

### 6.1 Background

The eastern boundary of Ogalagama is the Dedura Oya, a perennial river. A tributary of this river, the Kuda Oya, meets the main river at Ogalagama and runs dry under conditions of unusually severe drought.

There are 207 families, largely of the Devawamsika caste, of whom 129 families live in Ihala (upper) Ogalagama and 78 live in Pahala (lower) Ogalagama. The village has a small township comprising 18 shops.

### 6.2 Latrines

In a survey of 53 households, 19 had pit latrines of which 10 had a permanent superstructure. Families have built these latrines to avoid a long walk to the scrub jungle or because they aspire to a modern life-style.

Two schemes are operating to encourage latrine construction. The Department of Health gives Rs 250 per household to cover the cost of a cement slab and squatting pan. Three latrines are being built under this scheme. In addition, the Ministry of Local Government, Housing and Construction provides concrete slabs and squatting pans and by mid-1984 - two years after the scheme started - four latrines had been built. It is estimated that a family would need to spend a further Rs 660, assuming that it is providing free labour, in order to complete a brick and concrete latrine with a thatched roof.

### 6.3 Water Supply

There are 27 wells in Ogalagama of which 12 are public, including two abandoned government wells. The remaining 15 are on private land. Of the 27, 15 are protected. Eight are set aside for bathing, 10 reserved for drinking water and only seven are used for both bathing and drinking. In addition, about 20 per cent of families living near the Kuda Oya and another watercourse called the "Ela" obtain drinking water by digging small holes in the river beds.

In the wet season, most people bathe in the Dedura Oya, Kuda Oya or the Ela. Some use bathing wells but in the dry season five of these go dry. However, the Dedura Oya always contains sufficient bathing water even during severe drought.

In the dry season, only eight of the 17 drinking water wells provide a continuous supply. But only two of these are located in Ihala Ogalagama and one at the boundary between the sections of the village.

#### **6.4 The Perceived Water Problem**

Ogalagama's perceived need was for more accessible sources of drinking water in the dry season for the inhabitants of Ihala Ogalagama who otherwise have to walk to the upper reaches of Pahala Ogalagama. There was no significant perceived water problem in Pahala Ogalagama.

#### **6.5 Project Evolution**

From 1978, the community centre, under a new dynamic leadership, requested the government agent for the district and the MP for an improved water supply for Ihala Ogalagama. The community centre went as far as suggesting a possible technological solution, namely, to collect water from a spring at Ihala Ogalagama in a tank and pipe water to public standposts.

Previously, neither the community centre nor the Rural Development Society had the organizational strength to present the needs of the village in terms of development proposals.

However, the centre's proposals were rejected because the spring was thought to have inadequate yield. The centre then proposed to the government agent that shallow wells be dug to tap the village's groundwater supply.

In 1982, a major change occurred among local institutions. The Gramodaya Manadalya was set up and took over the task of agitating for an incremental improvement to the village's water supply.



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Members of the village elite became office bearers and this resulted in the proposals being subverted, using the technical excuse that suitable wells sites could not be found by technicians in Ogalagama.

The planners seem to have depended on the Gramodaya Mandalaya for socio-economic and demographic data. The Gramodaya Mandalaya's report is very superficial and biased. It simply highlights some areas that are short of water and fails to identify many of the areas which are in need of drinking water in the dry season. Instead, it identifies a need for water in the township and says that there is a substantial number of families prepared to pay for household connections.

In July 1982, agreement was reached on a large project to serve 8 600 people in four villages, including Ogalagama, which qualified the project for UNICEF aid. The National Water Supply and Drainage Board agreed to dig a well on the left bank of the Dedura Oya and pipe water to houses via private connections (costing Rs 1800 per household). It was also agreed that three public tanks would be constructed, including one in the township. As part of the project, piped water would be supplied to Ogalagama township.

In other words, the village elites in their capacity as office bearers had led planners to adopt a technology which disproportionately benefited a small section of the population. Furthermore, the proposal was accepted on the provision that shramadana (voluntary labour) be contributed.

It appears that in formulating the project, there were considerations which over-rode the aim of supplying drinking water to the maximum number of people. First, the Gramodaya Mandalaya perceived a need to encourage development in the township. Second, it was vital to give affluent families a material stake in the project so that they would undertake to organize shramadana.

There was no community participation in plan formulation or acceptance. In fact, only the elites knew the plan details until implementation began and even then the community at large was not informed about the scheme's technical

limitations. For instance, whether water would be provided to other parts of the village at a later date or whether the well's capacity would allow for later expansion and if so, where the public tanks would be located.

### 6.6 Project Criticisms

The location of the three public tanks was decided by the MP. His decisions came in for criticism when villagers were interviewed. It was generally held that the location of a public tank in the township was unnecessary as almost all the shops had taken private connections. It was also suggested that the tanks at Telambe and Hendeniya could have been located to benefit more families.

### 6.7 Implementation

Construction work on the project began in August 1982 and was completed a month later and inaugurated by the Prime Minister. Every adult male and female is estimated to have contributed at least one day's shramadana. Their tasks included opening and closing trenches, laying pipelines, excavating sand from the Deduru Oya for masonry work at the well, storage tank and pump-house, excavating the well, repairing the bund to withstand loading from heavy vehicles, assisting in constructing the main storage tank, etc.

The MP, who had considerable experience in organizing shramadana, appointed several of the village elite as members of a shramadana committee which met daily. Eight people from affluent families were selected as group leaders for the shramadana, mobilizing the labour in the community for the tasks at hand. Each leader is estimated to have spent Rs 400-500 in providing food for people from other villages who took part in the work.

If the villagers had known that the community at large was not going to benefit from the project, the village elite would have found it difficult, if not impossible, to induce villagers to provide free labour. Indeed, interviews conducted at Ogalagama reveal that since drinking water is not a critical and intensely felt need of the villagers, community participation through shramadana would not occur spontaneously

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or voluntarily. Instead, social pressure was exerted by the village elite, activating the obligations inherent in their relationships. In other words, the labour was "forced".

### 6.8 Operation and Maintenance

The pump house on the banks of the Deduru Oya has an operator working under an officer-in-charge stationed at the district capital, who is responsible for repairs. Water is supplied to Ogalagama from 12 noon to 2.00 p.m. and from 4.00 to 6.00 p.m.

There is a good deal of criticism about the project's operation since water is not always pumped on schedule. The operator often puts the blame for this on breakdowns in electricity supply. But the beneficiaries claim the pump operator and his superior are insensitive to their needs and greater management efficiency would reduce the number of breakdowns. There is some truth in this.

What is needed is a bridge between the two parties. A water committee consisting of technical project staff and representatives of the beneficiaries could jointly monitor the project's operation. However, the beneficiaries would need some basic training on the technical aspects and the operators would need elementary sociological training.

### 6.9 Impact

Out of a total 207 families in Ogalagama, a mere 28 families are using water supplied by the project. Household connections have been taken by 21 families while the remaining 7 use public tanks with taps. Furthermore, the project is serving those whose perceived water problem was relatively less serious than that of other villagers.

It is interesting to note that village leaders who agitated so hard for the project and also worked hard to implement it, show no interest in improving the service, in exploring ways of encouraging more people to use the tanks, or in seeing that problems are promptly dealt with. The reason may be that while these leaders saw the project as a way of increasing their esteem. and as a way of widening their network of political and social linkages, the social and

political benefits they could derive by continuing to spend their time to improve the effectiveness of the project after it was implemented would not be commensurate with the costs (in time and effort) of doing so.

A community need for water in Ihala Ogalagama, identified through community participation, was subverted by village leaders to become a need for water by affluent members of the community living in another part of the community, who could afford to take private connections.

## 7. KAHANDATUDUWA

### 7.1 Background

Kahandatuduwa is located by the sea and most of the village land is covered with scrub jungle. There are 116 families of which 30 belong to the Rajaka caste living in two distinct pockets. The remaining 86 villages are of the Karawa caste and are spread throughout the village.

### 7.2 Latrines

From a sample of 102 houses, 32 have either built or are in the process of building water-seal latrines. The Integrated Rural Development Project has funded 25 of these latrines, which are being built under a programme run by the local Gramodaya Mandalaya. Each household receives Rs 575 in two stages though the family must provide labour and a portion of the capital.

In addition, 38 households have either pit or athu-kussiya type latrines. The water-seal latrine and, to a lesser extent, the pit latrine are status symbols and are not used by men or children but by women and high status visitors to the village such as government officers.

### 7.3 Water Supply

Before the rural water supply scheme was implemented, villages obtained water from three relatively large drinking water tanks (wewa) and a smaller tank within the village. Five of the more affluent homes also had rainwater tanks made of concrete, brick and plaster which collected water draining from roof gutters.

There was also a drinking water well which received seepage water from an adjoining stone quarry and two wells built by the local village council in the 1960s which were abandoned because the water was brackish.

Each of the four tanks (wewa) is divided by an earthen bund. The upper segment is used for drinking water. The lower segment is used for the same purposes as the Ranna Oya estuary, that is, for bathing, washing clothes and utensils, and as a water source for animals.

If the tanks began to dry up, villagers used to dig small pits known as puhu-wala in the tank beds, and around the estuary, from which they would scoop out drinking water. But during the drought months from July to September, villagers had to walk 5.6 km to the Ranna Oya for drinking water. However, even in a severe drought, the estuary could still provide water for bathing, washing and animals.

#### **7.4 The Perceived Water Problem**

Kahandatuduwa's felt need was for more accessible sources of drinking water in the dry season. Villagers did not perceive a problem during other months or any problem over bathing and washing at any time of the year.

#### **7.5 Project Evolution**

Village records since the 1930s reveal that the strongest felt need of the community has always been a reliable source of drinking water. However, continued agitation, particularly strong in the 1950s, has failed to bring about any improvements. Representations have been made to the local MP and the district administration.

The only attempt to improve supplies came in 1954 when the village council was pressurised into building two wells but both were abandoned because the water turned out to be brackish.

During the general election campaign of 1977, the candidate for the present government party made an election pledge to solve the village's drinking water problems. After his election, local representations were made to remind him of his promise and subsequently the National Water Supply and Drainage Board made a deep-well feasibility study in 1980/81.

These investigations showed that tube wells would not be a viable answer to the water supply problem. Instead the NWSDB proposed a major project to pump water from an irrigation tank, north of Kahandatuduwa, into a large storage tank from where it would be distributed, by pumping, to Kahandatuduwa and two other villages. Under the plan, Kahandatuduwa would have nine cisterns.

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However, the two million rupees set aside for these three communities was insufficient, so the MP proposed that the water project should be replaced by an electricity supply scheme. Officials from the Rural Development Society (RDS), Youth League and United National Party (UNP) objected strongly. The MP then said that he was in a position to have the water project implemented if they would undertake to provide unskilled labour for digging trenches and laying pipes. This was agreed and the project started in April 1982 and was completed by the following August.

It is important to realize that the water problems in Kahandatuduwa are felt equally intensely by all villagers. The villagers who hold office in local institutions therefore honestly represent the common interest. This situation is different to that in Ogalagama.

#### 7.6 Modifications

The scheme was designed on purely technological criteria. No data was collected about the socio-economic or demographic aspects of the drinking water problem. NWSDB did not invite comments on the plan from RDS which learned of the plan through their MP. They proposed modifications since, according to the plan, some cisterns would be located in areas with hardly any houses. Some people living in clusters away from the main road would have to walk a long way to reach a cistern. RDS suggested new locations for the cisterns and these were accepted by the NWSDB and as a result more families benefited from the scheme.

However, additional modifications were wanted by certain disadvantaged caste groups and individuals who felt that their appeals would not be given a sympathetic hearing by village elites who held office in the RDS and UNP Youth League. They took their suggestions to the local MP who actively encouraged voters to communicate with him directly - unlike certain other Sri Lankan MPs who communicate almost entirely through village level political brokers.

One complaint concerned a cistern that was supposed to be sited opposite the post office. Local political brokers had the location changed because the sub-postmistress supported

an opposition party. When she complained to the MP, he immediately ordered that a public standpipe should be erected near her office.

A second complaint was made about a cistern which had been sited under the plan at the turn-off to a cluster of houses belonging to a disadvantaged caste. A representative from this group told the MP that the water would lead to the road becoming muddy and suggested an alternative site.

The MP ordered the NWSDB to move the cistern to the suggested site. At the insistence of the MP the scheme was modified to incorporate 11 cisterns with taps and three standpipes.

### 7.7 Implementation

Shramadana was an important part of this project. Each village family was asked to dig and back-fill 40 m of pipe trench. The total contribution of voluntary labour was 600 village-days which can be valued at Rs 15 000 - a sizeable amount for a small community.

Supervision was carried out by a technical assistant (TA) from the NWSDB. When she tried to recruit some skilled labour from within the village, the community leaders tried to pressurise her into hiring unskilled people who happened to be their political supporters. She tactfully resisted and requested the NWSDB to provide the necessary skilled labour.

However she did recruit unskilled labour from the village and found the labour force had loyalties not to her but to village leaders. One result was that some powerful village leaders gave direct orders to lay cistern foundations in various places of their choice - including the garden of one of the leaders. The TA could not get her own workers to carry out her orders but rather than give in to this pressure she stopped work on the project.

She met the local MP and explained the problems she was having with the village leaders who were his strong supporters. The MP then issued strict orders that no modifications were to be made to the project plans.



### 7.8 Operation and Maintenance

At the request of the MP, the RDS appointed a "water Protection Committee" (WPC) of seven people to act as a sub-committee of the RDS. Their job was to check that water was used only for drinking, that cisterns were kept clean and taps kept in a good state of repair. They would inform the NWSDB when a repair was carried out.

However, the WPC did not work in practice as these formal arrangements soon gave way to informal arrangements. Caretaker roles were soon taken by villagers in whose gardens the cisterns had been built. In fact, the cisterns were known according to the names of these villagers and it is they who make sure the facilities are properly used. By locating a cistern or tap in a private garden and refraining from legally acquiring the land for the State it has been possible to motivate owners to identify closely with the project and oversee operation and maintenance.



## 8. SURIYAGAMUWA

### 8.1 Background

Suriyagamuwa is located in the dry zone. It has 213 families and a population of 1083, mostly of the Goyigama caste. There are 10 dominant families of whom two Karawa caste families have come to the village as entrepreneurs and now dominate the village economy. Of the remaining eight families, two belong to the Durawa caste and six to the Goyigama caste and all hold strong economic and landowning positions.

### 8.2 Latrines

Each of the 10 relatively affluent households has built a water-seal latrine. Almost three-quarters of the remaining 80 houses in a sample survey have pit latrines of which 40 are open pits with no enclosures. The remaining 17 have wattle and daub walls and thatch roofs. These latrines are usually sited in home gardens and some scrub jungle is commonly allowed to grow around the pit, particularly when there is no enclosure.

There is a high number of latrines because the alternative involves walking to the nearest scrub jungle, which, on average, entails a half-hour round trip.

A latrine construction project was launched with UNICEF aid in March 1984. Implementation was carried out by Sarvodaya, a leading non-governmental organization. By the end of April, about 40 of the 90 houses falling within a sample, had excavated new latrine pits, had received concrete cover slabs from Sarvodaya and were awaiting payments of Rs 225 towards the cost of building supporting walls for the pits.

### 8.3 Water Supply

Drinking water wells are owned by 80 per cent of households and nearly a quarter are protected. Water from these wells is also used for washing utensils and, in the wet season, for bathing. An irrigation tank, the channel or the rivulet (Mavu Ara) are used for bathing and washing clothes and they also provide water for animals.

In the dry season (July to September), 70 per cent of the wells run dry in stages and most are located on higher ground in the village. When more than half the wells start to run dry, their users share water from other wells. As the dry season progresses, owners start to ration water to about three clay pots per family per day and restrict the use of their wells for bathing. However, most people whose wells run dry dig temporary holes in the low-lying paddy field or in the bed of the rivulet to obtain drinking water. People can continue to use the irrigation tank for bathing, washing clothes and for animals.

#### **8.4 The Perceived Water Problem**

Suriyagamuwa's felt need is for more accessible sources of drinking water in the dry season for families living on higher ground in the village, further away from the main road. There is no acute drinking water problem, even during serious drought, for families in lower-lying areas on either side of the main road.

#### **8.5 Project Evolution**

Improved drinking water supply was not a strongly felt need in Suriyagamuwa. However, officers of the local Gramodaya Madalaya and RDS were aware that a neighbouring village was getting, at no apparent cost to its inhabitants, a number of tubewells. This was part of a UNICEF and NWSDB groundwater project that was launched in this district because of the serious drinking water supply problems during dry months.

Therefore, with the sole intention of modernising their village, these local leaders wrote to the regional NWSDB office and government district agent early in 1983 requesting that Suriyagamuwa be brought into the tubewell project. Being intelligent people, they had obtained information about the project from the technical staff who passed through their village. Their requests were therefore carefully tailored.

As a result, in mid-1983, NWSDB officers came to the village and drilled six boreholes around the main road where, in fact, the drinking water problem is least acute. The houses

of affluent families as well as the few shops and government buildings are located in this part of the village.

### **8.6 An Appeal for Modifications**

This borehole siting created a lot of ill feeling in the village and numerous groups of villagers met the NWSDB officers informally and tried to persuade them to locate the tubewells on higher ground where the poorer families live.

In this way the poorer sections of the community began to participate in the tubewell plan but their requests were ignored by the planners.

NWSDB officers justify their decision on tubewell sites on the grounds that their vehicles and heavy machinery could not be taken to the village interior. This was not communicated to the poorer villagers. On hearing this they said that they would have voluntarily cleared and repaired the by-roads so that the heavy machinery could be brought to higher ground.

The poorer sections of the village displayed hostility when their suggestions were stubbornly rejected. In fact, excreta was thrown into one of the boreholes as a mark of protest. NWSDB officers then reacted by refusing to return to the village to sink the wells and install the pumps.

People in the village began to feel that by attempting to change the project plan they were in danger of losing the tubewells entirely and so persuaded local leaders to ask the NWSDB to return and sink the wells at the places they had originally selected.

### **8.7 Implementation**

At the end of 1983, officers of the NWSDB came to the village with their equipment and labour force for one week, sank four tubewells, installed the hand pumps and went away. There was no community participation in implementing the scheme.

### 8.8 Operation and Maintenance

All four wells are located on government land and so four young men from the four houses closest to the wells were selected as 'volunteer' caretakers. They were sent on a two-day course run by Sarvodaya on tubewell maintenance and health education.

The four men were expected to take a lead in convincing villagers to use tubewell water for drinking instead of water from open wells which can easily become polluted. However, these caretakers proved to be far less motivated than the cistern caretakers of Kahandatuduwa. It may have been different if the wells were located in a corner of the caretakers' gardens.

### 8.9 Impact

Of the 213 families in Suriyagamuwa, just 27 use these four wells. They express a high level of satisfaction but this simply reflects the unusually severe drought in 1983 since the beneficiaries now have a feeling of security.

## 9. PAHALAGAMA

### 9.1 Background

Most of the land within Pahalagama village is under scrub jungle. There are 55 houses and a population of 293 all belonging to the Navandanna caste of traditional artisans.

### 9.2 Latrines

There are four latrines in the village of which three are water-seal and one is a pit latrine. Only women of the households use these latrines. The rest of the village inhabitants defecate in the scrub jungle.

### 9.3 Water Supply

There are 16 wells in Pahalagama of which 12 are protected. Three wells have been abandoned on account of their poor water quality and of the 13 being used, 11 are privately owned, one is a government well constructed by the village council and one was built by Sarvodaya - a leading non-governmental organization.

Water is taken from the drinking water wells for washing utensils in homes and 12 wells are occasionally used for bathing. The irrigation tank is commonly used for bathing, washing clothes and supplying the needs of animals.

Owners of wells were seen to take pride in allowing others to use their water. When water levels are low, they may stop outsiders and even their own families from using the wells for bathing. They may also ration water for outsiders to two pots a day.

Although Pahalagama is a dry zone village, it has tapped its groundwater in such a way that it does not face critical drinking or bathing water problems even in a severe drought.

During the worst drought in living memory, from July to mid-October 1983, of the 55 families in the village, 14 used the same source of drinking water, 30 had to walk an extra 400 m and 11 journeyed between 400-800 m further. The Pahalagama tank was dry for two months during this drought at which time

people bathed either at the village council well or at an irrigation tank 2.4 km away.

#### **9.4 The Perceived Water Problem**

There was no perceived water problem of any significance in Pahalagama. Despite this a rural water supply programme was implemented in the village.

#### **9.5 Project Evolution**

There was no agitation by village level institutions for a drinking water project. Nevertheless, the District Development Council sub-office invited Pahalagama and seven other community centres in the area to apply for a tubewell as World Bank funding for five tubewells was available as part of an Integrated Rural Development Project for the district. All the eight applied and Pahalagama was successful.

The president and secretary of the community centre felt that a tubewell would be an important step towards modernizing the village. They felt that other development projects might follow if the village came within the "sights" of district administrators. For the community centre office bearers, their success in bringing some development activity to the village would enhance their local reputation.

Thus the technology was chosen without evaluation of the village needs. Under this IRD project, a village received a tubewell, or nothing, and each community had to meet several conditions including:

1. There should be 15 families or 100 people in the area served by the well.
2. Once the well location has been decided, the building work has to be undertaken by the community centre or some other local institution.
3. Shramadana must provide 25 per cent of all labour.
4. The well has to be maintained by a local institution such as the community centre.



5. After construction, a caretaker has to be appointed on the recommendation of the community centre.
6. The water could only be used for drinking and not for bathing or feeding animals.

#### 9.6 No Request for Modifications

There was no criticism in the village about the well siting since the well was seen largely as a symbol of modernization. It was not going to serve any significant need. Several of the rules relating to well operation and maintenance were not acceptable to the village but the people knew from experience that the Government would be unable to enforce such rules at the local level.

#### 9.7 Implementation

Building the well brought major problems for the community centre since none of the officers had any experience in managing even a small development project.

Under the terms of the contract, concrete rings and a handpump were provided by the project while Rs 5 500 would be paid to the community centre to cover the remaining inputs. This money was paid in three stages but the centre had to meet expenses from its own funds until these payments were made. It was estimated that there would be a 25 per cent shortfall on expenses which would be met by mobilizing shramadana. And 10 per cent of the Rs 5 500 was supposed to be retained by the community centre in the form of a credit balance.

Informally, the community centre sub-contracted the project to its president and secretary. These two officers paid the agreed 10 per cent to the community centre. They took on the work to ensure that the village got its well but also expected to make a profit.

As it turned out, these officers incurred a loss of Rs 1 500. They proved to be inexperienced and incompetent contractors. As a result, they pulled out of all community affairs and the community centre became inactive. By forcing a pre-formulated plan on the village, two up-and-coming leaders

had become demoralised and the village institution had collapsed in attempting a task beyond its capabilities.

### 9.8 Operation and Maintenance

Noone is in charge of maintaining the well. The community centre's president is unwilling to become a caretaker and the well is sited on private land where there are no males in the household.

In the light of Kahandatuduwa's experience, it is more important for the families using the well to develop informal operation and maintenance arrangements rather than trying to appoint an official caretaker.

### 9.9 Impact

During the wet season, only seven families living near the well use its water for drinking. During the 1982 dry season, only these families used the well. However, during the height of the unprecedented 1983 drought, 19 of the 55 families used the well for drinking water while almost half the village used it for washing clothes and bathing. When the irrigation tank ran dry, 20 families provided water for their cattle from this well.

So although the statistics show an increase in satisfaction with the well, this reflects the new feeling of security felt by villagers who know that they have a reliable source in the event of another drought.



