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**AN EVALUATIVE SOCIO-ECONOMIC
STUDY OF THE LBDA/RDWSSP**

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July 19 1988

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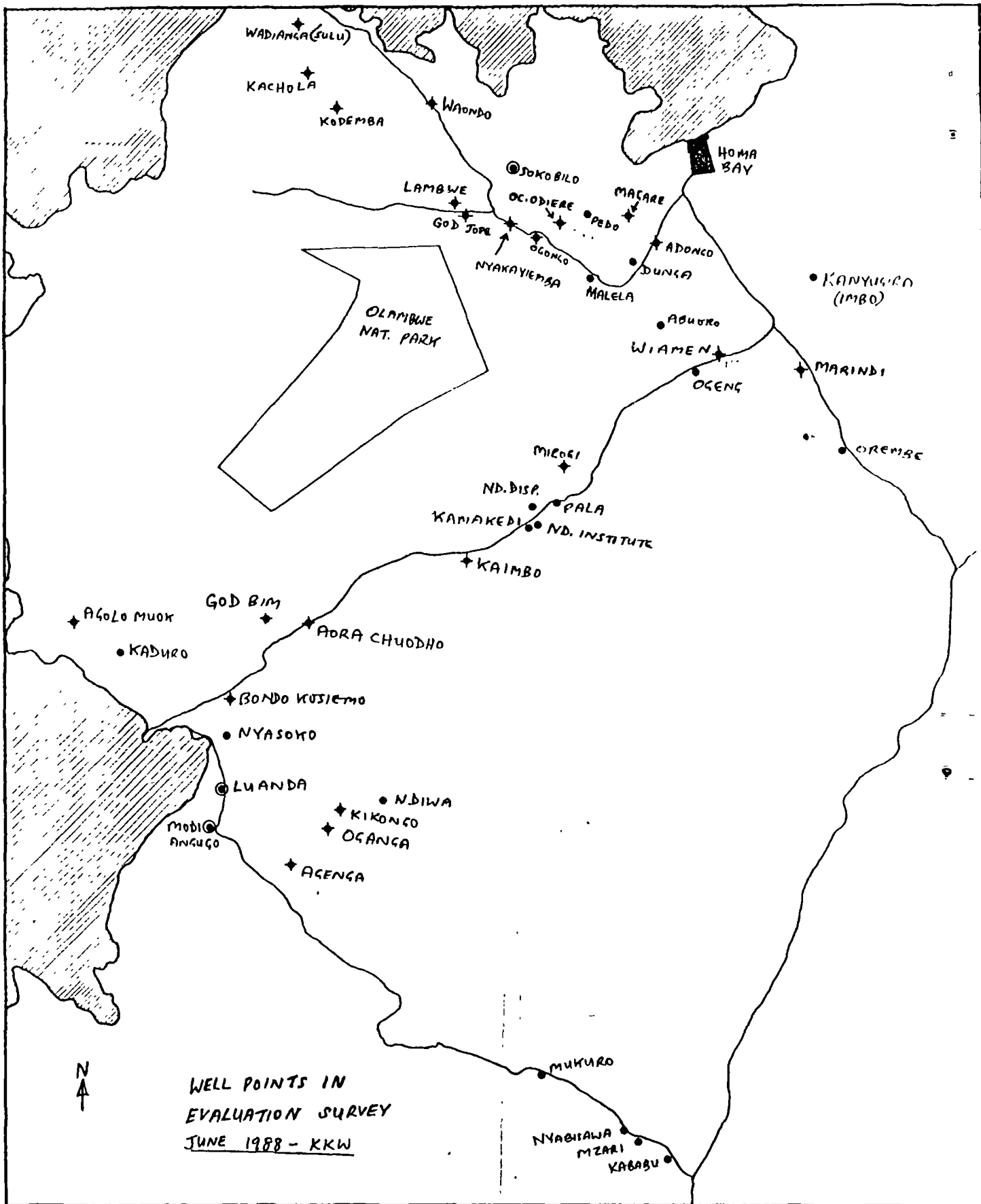


TABLE OF CONTENTS

Chapter		Page
1	PREAMBLE	1
	Terms of Reference	1
2	EXECUTIVE SUMMARY	7
3	FIELD SURVEY	15
	Methodology	16

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DATA ANALYSIS AND INTERPRETATION

4	UTILIZATION OF RDWSSP WATER	21
	Household Water Consumption	22
	Drinking Water	23
	Household Uses	23
	Animal Uses	24
	Garden and Nurseries	24
	Effects of Project Water on Communities	25
	Dry Season Rise in Demand	26
	Time Saved Daily	26
5	SYSTEMS OF PAYMENT	28
	Membership Fee	29
	Regular Fee	29
	Kiosk Method	30
	Conclusions and Recommendations	31
6	"AFFORDABILITY": ATTITUDES TOWARDS PAYMENT	31
	Community Responsibility	32
	Current fee (price) and Increased Future	33
	Household Income Sources	33
	Conclusions and Recommendations	34
7	COMMITTEE FUNCTION AND PERFORMANCE	35
	Committee Performance and the Initial	
	Mobilization	38
	Non-functional Committees	39
	Committee Finances	40
	Committee Expenditure	41
	Conclusions and Recommendations	42
8	COMMUNITY MOBILIZATION AND EXTENSION	43
	Women's Participation in Waterpoint Affairs	45
	Women's Groups	45
	Training by RDWSSP	45
	Conclusions and Recommendations	47
9	RDWSSP and Collaborating Ministries, Organizations and Local Industry	48

APPENDICES

- I Historical Background and Objectives of RDWSSP
- II Reasons for non-membership
- III Completed questionnaires

ABBREVIATIONS

LBDA	-	Lake Basin Development Authority
MOH	-	Ministry of Health
MOWD	-	Ministry of Water Development
NGO	-	Non-Government Organization
RDWSSP	-	Rural Domestic Water Supply and Sanitation Programme

I PREAMBLE

This is an evaluative study of the first phase of the Rural Domestic Water Supply and Sanitation Programme (RDWSSP) of the Lake Basin Development Authority (LBDA). The study was commissioned in May 1988 and fieldwork undertaken in late May and early June 1988. As the first phase of the RDWSSP is due to end in 1988 the LBDA and the donors were eager that some aspects of the programme's performance should be evaluated prior to the consideration of a second 5-year phase. I say some aspects because this evaluation does not concern itself with most technical inputs and activities. Rather it concentrates on social and community issues including community mobilization, conscientization and participation, health training, and sanitation problems around the well-points.

In its overall conception and implementation RDWSSP is both innovative and successful. This evaluation often bases analysis on the minority poor performances at the seeming cost of the average and very good ones. I state this here, as I have reiterated in many sections, because any apparently negative conclusions in some areas herein should be seen as contributing to the process of improvement. The poor performers might be reflecting flaws and tendencies which if diagnosed early might assist the rest of the well points not to deteriorate and at the same time help RDWSSP in future planning elsewhere.

This final report supercedes the earlier Preliminary Report.

I wish to thank LBDA/RDWSSP for facilitating this evaluation at all stages. The Programme Co-ordinator and his senior staff were most co-operative especially in sparing us a field guide, maps and office facilities when needed for which I am most grateful.

The following are the terms of reference as well as the objectives of the evaluation.

Terms of Reference for an Evaluative Socio-Economic Study of the LBDA/RDWSSP

Introduction

The background and context for the proposed evaluative socio-economic study of the Rural Domestic Water Supply and Sanitation Programme are provided in the Report of the Review and Appraisal Mission - October 1987 and the RDWSSP Workplan 1988. It is recommended that an independent evaluative socio-economic survey be carried in South Nyanza prior to the next Project Phase to determine the degree of community participation and appreciation.

It is recommended that the evaluative study be carried out in four divisions: Ndhiwa, Mbita, Macalder and Rangwe. These are the divisions where communities have benefitted from intensive Community Education programmes and where most of the water points and sanitary facilities have been handed over to the recipients for use, operation and maintenance.

The Evaluation Study will have the overall objective of providing comparative data on the field situation in relation to an earlier baseline study in respect to the RDWSSP and its intended impact on the beneficiaries. Such data will be most useful in assessing the overall impact and extent to which the original objectives of the Programme have been achieved.

The Terms of Reference

The evaluative socio-economic study will be undertaken on the basis of a representative sample which will be defined in agreement with the Programme Co-ordinator of RDWSSP. The target will be to survey one third of water points established through the project and ten households within the catchment area of each water point.

The study will be composed of two surveys based on structured interviews with precoded questionnaires for computer processing. One study will be based on the functioning and utilization of the established water points under the project. The second study will be at household level and will be intended to elicit the impact effect and water/sanitation related behaviours.

The consultant will design the questionnaires appropriate to these terms of reference and suitable for processing by standard data base and statistical packages.

It is strongly recommended that the proposed study be carried out by an independent outside consultant, rather than by the staff of the project. In order to give it the impartial and objective value it requires.

Water points development, functioning and utilization

The field survey should provide verifiable data to answer the following questions and/or issues, based on interviews with members of the water Committees and observations at the source.

1. What has been the contribution of the community to the water point and the designed project versus current performance in terms of yields, beneficiaries and reliability of supply?

2. Causes of unreliability of supply (if any)
3. Costs of maintenance per last occurrence and on average.
4. Status of the finance and administration for the supply which should be carried out by the Community.
5. The total costs for operation and maintenance per year and incomes gained, including method of payment by users.
6. The physical state of the source and/or service point.
7. The method of location of the point source with particular attention to the "ownership" of the allocation process and the actual supply source between the Community and RDWSSP. The question of ownership of land on which the water point is situated.
8. Reduction in distance to be travelled by population when compared to the previous source(s) used.
9. The functioning of the management committee, with particular attention to the role of women. This could include their influence on decision-making vis-a-vis RDWSSP in all aspects of management and sustainability of supply.
10. The training received by committee members from or via the RDWSSP.
11. The effects of the project (if any) in relation to:
 - increased water availability;
 - improved water quality;
 - time savings;
 - reduced seasonality of supply;
 - community activities around water point of:
 - . cattle watering
 - . laundry
 - . agroforestry
 - . vegetable growing
 - . bathing points
12. Problems which have been experienced: managerial, technical, financial and suggestions which the community or water committee might have for improvement.
13. General considerations on the community sustainability

of the supply in the long term with particular attention to issues of dependency on the RDWSSP and its functioning in the future.

14. Access to and equity of utilization of the supply by the surrounding community.
15. Awareness of health and sanitation issues related to the use of the water point.

Household Survey

The household survey should provide verifiable answers to the following questions and/or issues.

1. Number of users in the household.
2. The water source in the wet and dry season. If the household does not use the source provided, the reasons why.
3. Time savings in collection (if any) in relation to volume obtained daily. Frequency of water collection. Time spent at the water point. Amount collected at each draw.
4. Uses of water from the project source and any payments made.
5. Proportion of family income spent in acquisition of water.
6. Effects of availability of project water on the household [as a cross-check to question 11 above]
7. Problems experienced by the household with the project source [as a cross-check to question 12 above].
8. Observations and question data on water use and health related knowledge and required behaviours e.g. separate and covered potable water storage, use of latrines. the source of the household's health education knowledge and advice on water related behaviours.

Presentation and Timing

The evaluative socio-economic study findings will be made available in two stages and at two levels of analysis.

Initial Presentation

The first presentation of field findings will be of th

descriptive statistics (simple frequencies, aggregate response, etc.) associated with the questions posed and issues raised in the Terms of Reference above. These may be in tabular form with limited analysis. The initial findings must be available to RDWSSP on or before June 1988.

Final Presentation

The final presentation of the field survey findings including suitable cross-tabulations and analysis will be made as a separate report. The date for presentation of this final study report is the 31st July 1988.

COMMENTS ON THE QUESTIONS AND/OR ISSUES FOR THE FIELD SURVEY

1. General

1. The general and specific objectives of the RDWSSP should form the basis for the proposed evaluative socio-economic study.
2. The aims and objectives of RDWSSP should also determine the units of analysis.
3. The issues and questions relating to performance of identifiable components of the Community Development Department: Socio-economic survey, community mobilisation, Women Development, Sanitation and Health Education should be incorporated.
4. The units of analysis particularly as they relate to the questions and issues on "Water Supply Creation, Functioning and Utilization, are not stated. The absence of the methodology to be employed in the study makes it difficult to ascertain clearly as to whom the first set of questions/issues will be addressed. The programme therefore will require further clarification on these matters.

Household Survey

- Item 4: The question should deal with three different issues namely: Usage of Water from Project existing points.
- System of Payment: and people's attitude towards the system.
- Item 5: Should also deal with the issue of affordability or willingness to pay for the maintenance fee.

Item 7: Is not clear, should be restructured so as to include effects of health education with specific emphasis on improved household sanitation.

In addition to the above, the Programme suggests inclusion of the following questions:-

- * Attitudinal changes in respect to the improved water source vis-a-vis traditional water sources.
- * The unintended spill-offs and concomitants of the Project both on the household and community levels.

EXECUTIVE SUMMARY

1. The overall impression one gets is that in the four divisions surveyed the RDWSSP has been a success and has had considerable impact in only a short time. It was surprising the degree of rapport with, and "name recognition" of RDWSSP [universally called "Lake" in vernacular in reference to LBDA] and the willingness to talk to us. This public goodwill is something LBDA and RDWSSP should be proud of and hopefully a sustainable future asset. It also reflects both the usefulness and the difficulties of RDWSSP's task at hand - rural water supply on a community basis.
2. RDWSSP has created an impressive infrastructure in well construction and installation including efficient, trained technicians and a privatized production network. This infrastructure can now even service other organizations if need be.
3. Our terms of reference did not specify evaluation of technical (engineering etc) activities except where the well or community performance were visibly affected by this component. The consultant feels compelled, however, to point out the relative efficiency of the technical side of the well points. Physical engineering is normally easier than "social engineering". The latter dealing as it does with socio-cultural, psychological and political issues can be a quagmire of complexity to even the best intentioned or best informed "experts". Engineering has a mathematical predictability about it and can more easily be carried out. We did not come across any broken down wells. All pump breakdowns are fixed quite promptly if reporting by the committee is prompt. All 45 pumps visited seem quite suitable to the circumstances except for one down draft type encountered at Mzari in Macalder which is hard to work. Only one well, Nyasoko in Ndhiwa, has seemingly started to collapse, cracking around the slab making the water very muddy. Most technical difficulties are hydrologic or geologic in nature e.g. well water too salty e.g. at Ochieng Odiera in Mbita and at Agolo Muok; too muddy at Kaduro and Nyasoko, yield fluctuation by season (many wells in northern Mbita). An unusual technical problem is the incidence of eelworms and water beetles at Kajode, Dispensary and Adongo in Ndhiwa and again at Kababu in Macalder. This latter one has also got smelly water.

We found that chemical testing for trace quantities of metals especially heavy metals has not been done even in areas known to contain the gold and allied ores. This should be done to determine it is within acceptable limits. There were complaints of excess salinity and hardness which need similar testing for human consumption water.

The type of pump chosen (SWN 80/81), however seems to be very tough one with a long minimal-maintenance life. There will therefore be a period of several years when most committees' only major expense will be retaining a pump attendant. It is possible in that period for some committees to beef up their accounts if collection is done vigorously and members pay up. Where membership is low or the monthly fee is below five shillings and where cash income is a problem, sizeable bank balances are still going to be an impossible proposition. Wells like Kachola or Orembe, and many of those visited in Macalder are certainly in that category.

In the last 12 months however, there has already been a some incidence of pump mal-function. The rod and intake cable seem most liable to break. One major cause of these breakdowns was allegedly boys tampering with pumps, shoving objects up the spout and into the cylinder. If this is so then perhaps a modified spout or a lockable one might alleviate the problem and lower repair costs.

4. Still, a question does arise whether the choice of technology pump is proper given the flimsy economic base that is expected to support and sustain that technology in the future. Although the pumps are reliable, are they the most suitable in poor communities which must pay to maintain them? This question may need thorough looking into, given an economic situation of little cash income.
5. The other question is one of equity. Supply of domestic water, unlike income generating water (e.g. irrigation), is inevitably a public works activity in most societies and countries. In Kenya all urban supplies are heavily subsidized. Such subsidies are justified on the basis, not of direct economic benefits as in income generating water supply, but on the basis of indirect social and economic benefits to the community itself and the society at large. Such are: improved health with consequent reduced aggregate medical expenditure, higher productivity, etc. Public water supply and sanitation subsidies are rationalized on the basis of their secondary macro-economic effects not primary benefits. The entire society often ends up paying. But always with a bias towards urban populations benefitting more. Rarely has the question arisen in a rural water project of a communal nature like the RDWSSP.

The question then for the RDWSSP is who would pay for such subsidies - the government ministries (MOWD and MOH), local authorities or a combination of these? LBDA cannot possibly be expected to shoulder the financial burden for what is

essentially an "indirect economic benefit" project. This is a large question with policy implications. What is clear is that while willingness to pay is overwhelming in many cases, and the community attitude and motivation are both positive, the reality of regular cash remittances to the committee for water fee is different. Arrears are common even where fees are as low as sh. 3/- per month.

A common response for suggestions on increasing maintenance funds was that the committee should organize harambee collection efforts. One suspected that this method being voluntary allows individual to pay or not to pay and is therefore preferable to the obligatory monthly fee. Also the richer individuals would perhaps pay more, hopefully increasing the degree of equity.

- .6. The water flowing from the RDWSSP pumps is obviously very heavily subsidized if all the costs for hydrologic surveys, drilling and installation/construction are taken into account. After handing over communities are only required to pay for recurrent costs without any of the enormous installation charges. Even then the cost of water in many communities is set at between shs 2 and 10 a month per household. (In areas where selling is done per unit, buyers pay between one and two cents/litre.) In fact not all members end up paying their fees in time and in at least 52% of committee books examined members are in arrears of upto six months. But for arguments sake let us assume that all members do pay and the committee builds up its financial preparedness for any future maintenance costs. Can they in fact afford to maintain a pump attendant, pay for repair costs and leave enough for contingencies?

Before the pump and water point are handed over to the water committee and the community to run, all recurrent costs are covered by the RDWSSP except the wages for the pump attendant. After handing over the committee must then pay for all repair work, all spare parts as well as transportation costs for equipment and technicians. All these costs are still highly subsidized and well below market prices (transport and skilled labour of whatever duration are for example both only a flat 150/- standard charge). The question arises whether in the absence of such a generous support system, and at current levels of committee finances, the community could possibly pay for major breakdowns or replacements costing upwards of 5,000 to 10,000/- market price.

At current levels of performance the answer is certainly no. Very few committees had more than 2,000/- in their accounts. Most had less than 1,000/- and some had no bank account at all.

7. Management capacity is therefore the next constraint. It is clear that committees are not always clear what their role is. As we talked to them, on their own terms and not as "experts", it seemed to dawn on many of them what their intended role is. One man in Macalder said that "it is clear from what you people say that we are not doing our work, we do not meet or call the members and I do not know where our money goes" - this from a committee man. While many committees are enthusiastic and very willing in their attitude, they seem to lack knowledge on how exactly to excite their members to participate in some activities or pay in time. The books are also not always in order. This problem again refers to Community Development Component's extension and follow-up work and its effectiveness.
8. The community component was our area of inquiry. Perhaps by a strange coincidence we only encountered technical officers of the programme in the field except for one extension officer who was interviewed at her home where she was on official maternity leave. We were informed that Community Development Component officers were elsewhere or in most cases reportedly doing surveys in other districts. The officer in charge of the Community Development component at Homa Bay was away in other divisions as "he spends four days in each division in a rotating system". Our guide was often a technical officer (and we may add seemingly very competent, knowledgeable of the area and the technical side of the programme). It struck the consultants as odd that most senior Community Development Component staff were on leave during the evaluation and that not one was encountered on active duty in South Nyanza in May/June.
9. The success of the RDWSSP as currently conceived and set up rests more on the community and social inputs, rather than purely engineering ones. All the documents of the RDWSSP accept this and welcome it as a great challenge. There is no doubt that it is a formidable task. It seems to revolve around several problems:-
- a) Community and committee willingness and ability to take responsibility for the well after handover in all respects especially maintenance costs and financial preparedness for future breakdowns.
 - b) Community conscientization in order to be motivated and mobilized to accomplish (a) above.
 - c) the efficacy of using health and sanitation benefits such as improved water supply as a major incentive for motivating the community to support well-planned activities and affairs.

- d) the ability of the elected well-committees to manage well-point affairs and keep the community motivated.
 - e) the capacity of the population to afford the fee for the cost of water service.
10. The fact that many wells especially in Mbita and Ndiwa have succeeded shows that the tasks and problems are not insurmountable. In the estimation of the consultant the two most important constraints in many areas surveyed are affordability and committee performance. The latter can be improved by RDWSSP work the former is somewhat more complex and intractable, related as it is, to a poor economic base.

Many households are altogether too poor to spare a cash fee regularly no matter what the degree of motivation or health consciousness. They may wish and even be willing to pay more to ensure continuous service (more than 80% were willing to do so) but in concrete, monthly terms they often rapidly fall into arrears. This is understandable as there is no sustainable income source in much of the region. Although not so stated, allowances and remittances from urban employed relatives seem to be an important source of income. We met many families who had no source whatsoever and who could not sustain a monthly cash fee payment. About 56% households sell subsistence farm produce to pay for the water fee.

11. Most of the issues and problems encountered seem to indicate a definite weakness or a running flaw in the way the Community Development Component has carried out some of the basic areas of community work. I have isolated several below for discussion in the report.

a) We found several contradictions between RDWSSP policy and practice:

(i) Committees are supposed to have at least 2000/- in a formal account before handover or even construction. Many never had 2000/- and several have no accounts.

(ii) At several water points it was alleged that senior LBDA (RDWSSP?) officials had insisted on total equity i.e. free access to water for everyone, members or non-members. Ndiwa (Macalder) chairman was sure that a senior officer "from Kisumu" ordered this. If this is so then there is some confusion about paying for water and free access, among

RDWSSP officials. One cannot have both. We suspected and assumed that free equitable access was for the pilot phase not the current one. This needs clarity at all levels down to the committee.

- (iii) A socio-economic survey was supposed to have helped identify needier communities and sites for water points. Indications are that considerations other than "neediness" came into play in several cases encountered. One is the Kachola well. The other is Mzari and much more glaringly the second well now under construction at Mukuro Market in Macalder, several metres from another already functioning well. Siting of wells in Macalder seems not to always consider LBDA/RDWSSP guidelines.

Similarly several elitist or powerful individuals have appropriated wells. Osano's at Ndhiwa Market and Minya well are for all practical purposes private wells with the community merely tolerated patronizingly.

A sub-chief at Kanyogira was influencing committee decisions and had seemingly become an ex-officio and veto-ing member of management.

- b) Related to (a) above is one common problem in rural development issues where many beneficiaries are poor and often powerless or, put another way, disempowered by lack of access to influence. Elites soon wangle their way to take advantage of a new public benefit. A project like RDWSSP cannot be immune to the exigencies of politics and its performance must be seen in the political context it is working in. Having said that, it is impressive how little such pressure there has been as far as we could tell from the sample of 45 water points. The challenge is to keep such influences low or lower yet. One fears increasing influence peddling by powerful interests as the programme matures.
- c) Initial Community Mobilization: In most cases a baraza mode of sensitization was employed. This is often convenient when members are so large and time not adequate for small groups or prolonged "workshopping". Yet the baraza format is notorious for ineffectiveness where diffusion of new ideas and skills is concerned. Most rural people sneeringly consider barazas a

"chief's ordering" session. Barazas are not discussion or learning fora. People are often talked down or down upon.

If the original mobilization was overwhelmingly based on this format the rate of health and sanitation "intake" by the community would be very low. A theoretical understanding of "community participation" or "local responsibility" might be instilled but in concrete terms it would be unclear to most participants what was expected of them.

Several examples given in the report serve to show the ingrained habits and practices that impinge on sanitation health and basic personal and household hygiene. They are not insurmountable but they require greater persistence and novel ways to attack. In a way it may be that RDWSSP has taken on too large a bite to chew on the health front. Technically this is a whole ministry's jurisdiction and it might be worthwhile redesigning the health and sanitation component to more directly involve the Ministry of Health personnel and resources in RDWSSP work after handover where this is feasible. Extreme constraints have immobilized line ministries which is now a factor to consider, however, and any transfer of responsibilities should consider Ministries' ^{capacity} to continue "extension" work.

- d) More community involvement before construction in smaller functional (e.g. homestead) groups would elicit more support and result in greater understanding. As far as we could gather, little intensive household or homestead level work was done. In Macalder virtually no useful mobilization was done except where a women's group existed e.g. Kikongo. The extension officer in charge in the early stages often lived very far (Kendu Bay, according to two different committee officials) and used to commute by piki occasionally. Our conclusion is that initial mobilization was only sketchily done in Macalder. In other divisions it was much better done. In Mbita and Rangwe one extension person was particularly well spoken of and even quoted.

After construction and handing over little follow up, not even of the baraza format, have taken place. Committees complain of members not attending meetings and communities complain of not being involved or informed by committees. There are some serious, but significant instances of extreme suspicions as to the fate of money collected.

- e) It seems that while the RDWSSP genuinely wants to have

a bottom-up, participatory project, the practice on the ground tends to revert to a traditional top-down one with few attempts to intervene along "with the people". Many things indicate this creeping "top-down" syndrome. A very useful women's component training course was done at Migori in May. We encountered two water points in Macalder where four women had been to the course. Reading the invitation letter sent to invite these women to attend it struck us as bizarre that the language used was so difficult that the committeemer had to walk for miles for a translator (at Ndiwa the poor chairman said he had to use a dictionary). This reflects an unfortunate official attitude - the letter should have been at worst in simple English but better yet in Dholuo - why not if one is working with the people?

- f) The new Training and Women's sections should however help alleviate these flaws in the future if more "bottom-up" approaches are incorporated and adapted with sensitivity and creativity. It was noted that where there was an existing women's group the well point tended to succeed relatively.
- g) A disturbing report at three water points was that some committees allot some money for entertainment of guests. At Ogeng four officials insisted the entertained LBDA (=RDWSSP?) officials for 300/-. At Malela the first stated priority for money is entertaining guests. If the Ogeng allegation is correct it is of course very wrong. It should be investigated and the practice stopped. The extreme generosity and hospitality, often difficult to reject politely even for us evaluators, should never affect committee finances especially for programme officials
12. At least eight water points without the knowledge of the Technical division, have changed pump attendants so that an untrained person is now in charge of the pump. In one case Pedro, the new attendant has greased the (nylon) pump-head parts which can be detrimental. In Malela they had opened up the pump and "successfully repaired" it.
13. Physical state at service points has been greatly improved where a fence has been erected and a "living fence" planted. The commonest default was lack of latrines, not just VIF only two of which were seen but any kind of serviceable latrine. RDWSSP should require that the community organize itself to construct a latrine (or two if tradition requires) at the site during construction or prior to handing over as a matter of obligation. It has a modest effect for the community but also a practical hygienic

necessity at the service point.

14. Please refer to table of contents for references on specific conclusions and recommendations by topics.

3 FIELD SURVEY

Background

This evaluation only covers four divisions of South Nyanza-Mbita, Ndhiwa, Macalder and Rangwe where the earliest surveys and pilot work were undertaken beginning in 1984, and where most wells have now been handed over to community-elected water committees for management. It would be pointless to evaluate well points which are still under RDWSSP management for community participation and performance. All the same it should be noted that even in these four divisions few wells have been under community management for periods longer than 12 months while most were handed over only several months ago. This is too short a time for various management problems and community dynamics to emerge. Indications are, however, that some general weaknesses and successes can already be discerned and documented. In some instances specifically local problems are already evident.

The evaluation was done during the wet season. Because of the brevity of time the consultant had only about seven weeks for the entire study and reporting with a first report to be ready within the first six weeks and the final report to be submitted by mid-July 1988.

The record heavy rainfall in April and May had rendered most access roads in the four divisions virtually impassable and many wells, therefore, inaccessible given the need for time-saving. The roads from north west Mbita (e.g. Sindo) to Sori along the lake shore were washed away as was the road from Nyatoto to the shore. The bridge just to the north of Homa Bay on the Kendu Bay road was out of commission making northern Rangwe inaccessible by road transport other than by detouring much further to the east. Similarly the road link between Karungu Bay and Macalder was severed near Luanda during the pre-study forcing us to skip all Macalder points in the initial reconnoitering.

In matters of water supply in rural settings the effect of the rainy season can be considerable. Availability, abundance and quality of water, not to mention the consumers' own perceptions of water scarcity are all perhaps affected. On the other hand the wet season has its own useful peculiarities regarding use of safe centralized supplies. If for example people who live far from a well point really value or are motivated by sanitation they will most likely forego the convenience of natural supplies and travel to the improved well. Further, if this well is perceived in some areas merely as a dry-season relief point to be forsaken and not supported when natural supplies return, that too will become more evident during the wet season. The programme co-ordinator and other senior RDWSSP officers saw no need to bias the study to purely dry-season problems and agreed that the rain:

season bias should not delay the study (see more on seasonal effects under Methodology).

It should be pointed out that a few of the water points surveyed represent the original pilot wells which were installed before the basic guidelines for community involvement were implemented. These have a significantly different history particularly regarding community involvement. Community mobilization work was done much after the well was completed and already in use. Such committees and communities were invariably found difficult to change from free water supplies with zero community input to a community-owned and operated system. Bondo Kosiemo is one such water point.

Methodology

This evaluation is mainly based on a socio-economic household survey, a water point management survey, and field observations. Prior to the field work a study of LBDA and RDWSSP documents was undertaken for background information. A 4-day field reconnaissance-cum-pre-study was then carried out from May 18th 1988 where a provisional questionnaire was tested. Twelve water points and 18 households were visited in Rangwe, Mbita and Ndiwa. Based on this field experience two types of questionnaires were designed: the Water-point Function Survey directed at committee officials and the Household or Socio-economic Survey. [See-Appendix for specimen questionnaires].

Sampling of well-points was as far as possible stratified by administrative divisions. Only nine wells have been handed over in Rangwe while most are in Mbita and Ndiwa. Due to the flood problems mentioned earlier accessibility became an unintended source of further stratification. On careful examination this turned out to be reasonably random. Moreover it was found out quite early that there is little or no effect of such features as roads or proximity to urban settlements on how well points function or how the community participates. A well point like Orembe or Marindi, both near the major Homa Bay/Rongo road, have each got unique problems and are less well-organized community-wise than Kodemba which is deep inside Mbita and far from the influences mentioned above. The consultant is confident that the sample is adequately random and has only the rain-season bias discussed in an earlier section. Due to difficulties of access only 45 well points were examined out of a total of about 150 handed over in the four divisions.

At first it was anticipated that up to 10 households per water point would be surveyed for the socio-economic data. This turned out to be impracticable for several reasons. Firstly, it became evident that distant as well as non-member households particularly those at the margin or periphery of a well's catchment area should be given equal weight to those near the

water point. It is precisely at such households where expediency would outweigh all sanitation motivation and for borderline cases to rush to traditional sources rather than to the well point. It is a measure of motivation and attitude. This meant that interviewers had to walk long distances to the edges of the water point's catchment. In Mbita and parts of Macalder this distance was often several kilometers. Secondly, an unanticipated problem arose regarding the water-point function questionnaire. Since we would intentionally arrive unannounced, it proved difficult to always find officials, or at least one official, of the committee. It was even more difficult to physically see a committee's records so as to assess their status; this often entailed long searches for officials or for the books. The resulting loss of time in this crucial exercise meant less households could be done in the allotted time. Of the 45 water points, five had no Committees or community involvement of any kind since they were institutions which allowed locals to draw water for free. No households were interviewed where there were no community participation and water was free. An average of six households were done for each water point. Making for a total of 277 households surveyed. Out of this 37 turned out to be non-members and four were discarded so the effective sample figure is 236.

The following are the well points chosen for the sample:

Mbita

Agolo Muok	MB-022B
God Jope	MB-091
Kachola	MB-081
Kodemba	MB-104
Lambwe Sec.	MB-121
Nyakayiamba	MB-081
Ochieng Odiero	MB-063
Ogongo	MB-085
Pedo W.G.	MB-119
Soko Bilo	MB-5-081
Wandiaga	MB-083
Waondo	MB-045

Ndhiwa

Aora Chuodho	ND-083B
Abuoro	ND-089
Bondo Kosiemu	ND-018
Dunga Primary	ND-092
God Bim	ND-094
Kaduro/Orore	ND-090
Kaimbo	ND-0104E
Kajode	ND-070
Kamakedi	ND-004
Malela	ND-107
Minya	ND-082
Mirogi	ND-012
Ndhiwa Institute	ND-003
Ndhiwa Dis. (Banana)	ND-W-02
Nyasoko	ND-091
Ogeng	ND-010
Orembe	ND-093
Pala	ND-S01

Macalder

Agenga Sec. School	MC-BH02
Luanda Konyango	MC-W-08
Kababu	MC-032
Kikongo	MC-046B
Modi/Agungo	MC-207
Mukuro	MC-029
Mzari	MC-200
Nyabisawa	MC-BS-2
Oganga	MC-081

Rangwe

Adongo	RA 042B
Kanyugira (Imbo)	RA-004
Magare	RA-034B
Marindi	RA-030
Wiamen	RA-048

Structured interviews based on the questionnaires were administered "semi-structuredly" in the sense that the researchers and assistants were encouraged to ask questions indirectly and in an informal discussion mode where question format permitted. This hopefully avoided "interview stiffness" on the part of respondents. All the research assistants spoke Dholuo and English and could easily use the questionnaire structure in this conversational format. They were intensively supervised by the consultant and experienced associate consultants who are fully conversant with the socio-cultural intricacies of the region. To re-inforce the need for accuracy, nightly work sessions of field workers were organized where each interviewer's work for the day would be examined to spot errors or discrepancies and to clarify difficulties. This hopefully resulted in deeper understanding of the questionnaire. Four questionnaires which had been poorly administered in the early stages were identified and rejected in this way.

The questionnaires were so designed as to elicit both quantitative data and open-ended responses volunteered by informants. This open-ended approach resulted in a great deal of "observational and qualitative" data which enriched the field teams' perception of problems within the community and in water point management. These can be found under "General Observations". Some wells were visited more than once for one reason or another (usually if the committee officials or books were not seen at the first visit). Interestingly much general information, often unreflected in structured interviews, would result.

A good example is Kachola and Nyakayiamba both in Mbita. The former is a failing proposition in all ways, the committee is effectively non-functional, no pump attendant was ever found, the secretary would run away when he heard us coming and would send a wife and child instead. It turned out that the well owes RDWSSP some maintenance money for repairs done months back. Little money has been collected and the water is free. Nyakayiamba on

the other hand is at first appearance a model of success. Clean, orderly and well served by a pleasant elderly pump attendant. The Committee chairman is the school headmaster. Later, examining books, it was discovered that they are in a poor state and not up to date, fee collection had stalled due to "wet season, water abundance". With only sh. 600/- in treasurer's hands, the committee is at a loss how to motivate the community to support the well point financially during the wet season. The pump attendant is no longer paid and only six hundred shillings is in hand. At the moment they can hardly afford the pump attendant's wages. Their original large membership decreased as more wells were constructed nearby causing a decline in revenue. During a later visit when one interviewer was walking by from another well an irate man, on learning that we are "from LBDA" talked loudly about "financial mismanagement and nepotism at Nyakaiyemba the community should not pay for water until thorough accounting/auditing is done and the current committee tried in court. I know, my wife is in the Committee") we got no evidence to substantiate this but judging by the support this man got from part of the crowd there was clearly a not insignificant area of contention in the community regarding water point management. These two examples illustrate how non-structured sources of information can be useful for evaluation.

We were at great pains to explain that we were independent of RDWSSP/LBDA and that we were sympathetic outsiders eager to support the community on water point issues. Invariably we were initially seen as "LBDA" officials to whom water problems could be addressed ["need more wells, nearer" "increase water yield" etc.]

There was evidence that some respondents, despite our efforts to avoid stiff and formal interview situations, were echoing "the correct responses" from conventional baraza wisdom. On many occasions we would be told "yes we have a latrine and we use it". We would in all cases request to see it in order to examine its condition. In many cases it turned out there was no latrine. We were just getting the "correct" response as we were expected to want to hear. Then the response would be changed to "we use a jembe". Of course in the end little such hygienic practices are practiced. Only about 25% households interviewed have a toilet many in various degrees of disuse. In Macalder virtually every household visited had a latrine.

Another illustration of low sanitation and health awareness is children's cleanliness and health. Many children under five seem somewhat unwell if not quite ill. On three different occasions we experienced graphic illustrations of the pitfalls of evaluation and interviews. Mothers would answer the interviewer that children were well ["no diarrhoea or vomiting last 3 months"]. Then almost on cue a toddler would belie the statement by direct example of bowel movement. What was apparently perceived as normal stool would in most other

instances be called infective enteric type of diarrhoea. In one such case in Macalder the elderly grandmother cleaned up the mess, chucked it away a few feet away from this interviewer and proceeded to talk of using a jembe herself. With hands unwashed she walked away to a funeral ceremony nearby carrying gifts of food.

Several questions were designed to cross-check each other and may seem repetitive. This is particularly so on the issue of "affordability" and attitude towards "community responsibility" or participation/ownership for the water point. Several questions probed these two issues from different points of view not in sequence but at different times in the course of interviews.

Data Processing and Analysis

The data was entered using a the DBase III+ package that permits direct statistical manipulation by the new SPSS-PC+ statistical package without need for any intermediate conversions.

Summarized answers and figures are provided in questionnaire format in Appendix III.

DATA ANALYSIS AND INTERPRETATION

4 UTILIZATION OF RDWSSP WATER

Of the total 273 households clustered around 45 RDWSSP water points in Rangwe, Mbita, Ndhiwa and Macalder divisions, 13.6% were non-members, i.e. these households did not participate in or utilize the improved water points despite living within the catchment or the radius of the water point in question. The full list of such reasons offered is at appendix II. Cost, distance and alternative water sources are the main reasons for non-membership.

Membership at the time of construction averaged between 38 and 150 households but has now risen steadily by about 53 percent average to an average of 70 to 150 households. Ten water points have more than 150 member households. Total number of beneficiaries has increased from about 250 average per well initially to an average of 688 currently. Fifteen water points have more than 1000 beneficiaries.

Households, the basic water consumption units varied in size from two up to sixteen, but averaged 6.4 persons for the entire population. Mbita has larger households averaging 7.6 persons while Macalder has an average 5.7 number of persons. The problem of what really constitutes a household in a polygamous extended family system was resolved by only considering individual wells as constituting households. Therefore a household is composed of a wife and her children plus her husband and her unmarried daughter's children where applicable but excluding her married sons' children who would normally be part of another household on the same homestead. It is suspected that some respondents counted members of other households or the entire homestead (headed by one man) thus resulting in a few high counts. Following is a table of mean household sizes by division.

	<u>Mean Household Size</u> <u>(Persons)</u>
Entire Population	6.4
Macalder	5.7
Mbita	7.6
Ndhiwa	6.3
Rangwe	5.7

Household Water ConsumptionMean Daily Volume (litres) Consumption per Household by season

	Programme Water		Other Sources	
	Wet Season	Dry Season	Wet Season	Dry Season
Macalder	55	71	37	25
Mbita	58	100	39	23
Ndhiwa	41	78	43	21
Rangwe	41	73	22	15
Entire Popula- tion	48	82	36	21

Volume Consumption of Programme water in the Dry Season
Households %

Litres	Percent
0	2.5
10	.4
15	1.7
20	3.0
30	7.2
40	11.4
45	3.8
60	14.0
75	1.7
80	18.2
90	3.0
100	10.6
120	8.5
140	3.4
160	3.8
180	.8
200	4.7
240	.8
260	.4

On the average member households to use RDWSSP water at the rate of 40-100 litres a day for both drinking and household purposes i.e. cooking, washing utensils and clothes, bathing etc. By far this is the greatest use for water. Naturally this rate would be expected to vary with distance of household from the water point so that in parts of Mbita and Macalder where distances to water points are up to 5 Km or more, it seems that less water is used for household purposes. The larger the distance also the less the likelihood of economic [or income generation] uses of water e.g. garden/nursery or animal feeding. Such great distances would therefore affect sanitation practices at household level. This incidentally would seem to argue very strongly for the RDWSSP idea to provide washing slabs, shower rooms and livestock trough at the water point as a way of reducing household water transport burden on women. Thus only drinking water would have to be carried. In many places this would halve the number of trips to the water point and benefit women in efforts and time saved. The provision of such facilities is in turn dependent on several critical factors: would the husbands and patriarch heads of households/homestead accept to bathe in public baths? Are there cultural constraints to such novel practices? But even if it meant only women and younger boys and girls were to use such water point facilities there would still result a considerable saving of transport effort and time. Washing slab and cattle trough most certainly would be universally used with minimal constraints.

Drinking Water

Programme water is overwhelmingly used for drinking and household purposes in both seasons, especially so in the dry season when other sources are scarce. 95% of the households stated that in the dry season programme water is used for drinking while in the wet season this figure drops by 85%. The 10% difference is attributed to roof catchment where there are mabati roofs, seasonal springs and obviously to surface water. Our experience in the field when water was abundant is that surface (and therefore unsanitary) water is used where distances to water point surpass a certain point in the wet season. We suspect that in fact the wet season decline in water point use for drinking water is greater than the 10% reported, that people were often saying "the proper" thing. At Nyakayiamba many members stopped paying dues in the wet season as they did not need the improved water. Many of those members had no mabati roofs. Many other water points reported declines in revenue in the wet season. "Other sources" becomes important in the wet season.

Household Uses

For household uses (i.e. washing up and bathing) the percentages are: 94% use the water point in the dry season decreasing to 77% in the wet season - a decrease of 17%. This difference is high.

than the 10% for drinking water and may reflect the fact that bathing and washing dishes and clothes is done with surface water from other sources especially where distances are large. Again perhaps if there were washing slabs, shower facilities etc. wet season use of water points might rise for these household water needs at the water point but not carried to the home.

There are indications, unproved by any data but simply based on observation and on complaints by committeemen about "wet season" flight of members, that the wet season is seen by some members as a time to fall into arrears without missing water. In a broader sense the well point is seen as a dry season relief point by some people. Most likely these households are the poorer ones who wish to save on payments, the distant ones or the least motivated by sanitation benefits. Other questions address this later.

Animal Uses

In the dry season 25% of all households use water for animals while 11% use it thus in the wet season. It should be pointed out that this is water actually carried away from the water point. In Macalder almost all the households used water point water for feeding young animals but preferred traditional sources for older livestock - similarly in Mbita where the lake was accessible albeit far. In most water points (except springs) yield fluctuation is such that in the dry season there is not enough water to satisfy animal requirements. Rationing systems also mean that around the middle of the day (11 a.m. to 3 p.m.) most wells have to be closed. At any rate the figures indicate a great need for animal water in less-watered areas and possibly long treks to these traditional sources by the animals and herders. In Macalder, where pastoralism is now a most important economic activity one household claimed animals are walked seven kilometres for water "which is all they do in a day return trip-see how thin."

The 11% used for animals in the wet season would indicate nearness to the water point for those households. There was an interesting response in several places that the well water has improved the animal survival rates and health due to salt content and decrease in disease. But this is not the major consideration in using water points for animals.

Great caution should be exercised in providing cattle-troughs at well sites where yield in dry seasons cannot satisfy both human needs and animal needs.

Gardens and Nurseries

Home gardens and tree nurseries are found in some households (i.e. some distance from the water point). They were mainly

vegetable patches (sukuma wiki, tomatoes, pepper and onions) usually quite small. Only four were large enough to have income generating capability at the water point proper when carrying of water is less tedious. Pala, Aora Chuodho, Kanyug and Magare are by far the most successful irrigation projects based on programme water. Magare is remarkable for being the only borehole encountered able to sustain a large garden. The other four involve some forms of agroforestry in their product designs. At Kanyogira the women's group has, in addition, a thriving chicken project.

Effects of Project Water on Communities

RDWSSP has benefitted recipient communities in several crucial ways. Following are the summaries. [See tables below for figures].

1. Reduction of travel distances by most people to draw water and hence increasing time and energy for other activities. Some households travel farther to the well point than before installation, showing strong motivation perhaps sanitation.
2. Removal of dry-season "thirst" previously endemic. Now many beneficiary communities water is available year round although distances travelled increase in this season.
3. In a way the above benefits were offset somewhat by lengthening waiting periods in some low-yield wells in dry seasons. It was claimed that queuing starts at 3 a.m. in many places and that rationing is a necessity. No estimates of time lost in queues was done in the survey.
4. By far the greatest benefit seems to be in sanitation. Adult stomach illnesses are reported to be less now than before the water point installation by 91% of households. Only 9% think they are more or the same. Children's intestinal illnesses are less reliable indicators of better health since kids contaminate themselves easily (e.g. with soil) but even though, 70% of households said no serious stomach illnesses were suffered by children in the last six months. A 10% mortality rate among children in the last 12 months seems high for a sample of 236 households but is quite favourable by South Nyanza high infant mortality rates. It seemed to us inclusive of all causes and not from intestinal diseases only.

Following is a table of frequency percentages of unprompted answers to Question No. 8 in the Household questionnaire and question No. 19 in the Water Function questionnaire.

"What effect has the Programme water had on your family (or the community) since the project began?"

	Committee	Community
	%	%
a. Wash more often	64	80
b. Cleaner house	50	64
c. Grows vegetables	8	33
d. Feeds animals	16	22
e. Healthier	87	91
f. Cleaner water	90	91
g. Water tastes better	68	62
h. Has water all year round	63	69
i. Water is closer	74	78
j. Water is quicker to draw	67	80
k. No effect has been noticed	0.8	7
l. Don't know	0	2

The one salient point here is that the management (committees) tend to overstate in all the categories, although there is significant agreement in all cases that considerable benefits have resulted from the water point.

Dry Season Rise in Water Demand

Simple frequency of daily water consumption by households show only slight seasonal changes with a tendency towards increased dry season water demand. If we crosstabulate volume demand in the wet season by the dry season demand it becomes evident that generally the same households use more water in the dry season and obtain that water almost exclusively from the programme water points.

Crosstabulation: Volume of Programme Water daily demand the wet season by volume in the Dry Season. (figures in % with row total in brackets)

Vol. in Dry Season (li)

Vol. Wet Season (li)	0	0-30	30-60	60-90	90-120	120+	Row total count
0-30		24	39	17	14	6	(93)
30-60		10	33	35	15	6	(78)
60-90		6	13	29	34	19	(32)
90-120		4	4	9	39	44	(23)
120+		0	0	0	0	3	(10)
							(232)

The table above shows that the same households are using more water during the dry season than in the wet from the water points. For example 24% of those who use 0-30 litres a day during the wet season use the same amount in the dry season, 76% (total of the remainder of the row) use more (between 30 and 120 litres). For 30-60 wet season category, 10% use less water in the dry season, but still most people use more. The trend is consistent for all categories.

These few households who use less water against the general trend, are perhaps composed of those few who turn to other sources for perhaps a variety of reasons:-

- a) distance from water point becomes an important factor the farther away the more likely the household is to turn to "other sources".
- b) Livestock water needs are obtained from other sources "on the hoof"
- c) Sanitation is foregone by cleaning and washing up

Time Saved

Not all households have saved time drawing water since the installation of water point as compared to before. Some are walking farther (negative time saved) now showing a strong motivation of either sanitation or attractive quality of water. Most however are saving some time, although mainly in the dry season relative to the wet season.

Total Time difference (or Total Time Saved Daily) since water Point Installation Per Household

<u>Time in minutes</u>	<u>Frequency %</u>
-240 - -120	1.00 - 1.7
-120 - -60	2.00 - .8
-60 - 0	3.00 - 18.2
0	4.00 - 15.7
0 - 30	5.00 - 25.0
30 - 60	6.00 - 12.3
60 - 120	7.00 - 17.4
120 - 180	8.00 - 5.9
180+	9.00 - 3.0

Conclusions

1. Clearly the programme water is the mainstay of household and drinking water needs in the four divisions, even judging by wet season utilization rates. In the dry season only about 5% of the member household interviewed do not use the well points exclusively.
2. Demand for programme water rises dramatically in the dry season as a general rule in all the areas surveyed. This is perhaps for young animals and some minor irrigation user are figuring in more. In addition people walk longer distances to water points in the dry season due to shortages of alternative sources and carry bigger volumes in more trips than in the wet season.

Significantly many households walk further in the wet season to get improved RDWSSP water than before water point installation arguing for considerable motivation perhaps of sanitation.

By the same token 17% of all households go against the general dry season trend by drawing less. One suspects that these are distant homes or that they forego some household activities (washing up etc.) at a possible cost to sanitation.

3. In the wet season however an average of 14% overall obtain water from other sources. This has implications in both sanitation and also practical management: in the wet season some households may use insanitary surface water; in the same season committees lose monthly remittances of fees and "kiosk" fees where this applies.

4. There is demand for kitchen gardening where water supply is adequate.
5. Income generation, as opposed to simple kitchen gardening, seems to succeed only where the well yield is independent of the season. These are always springs. Pala (Ndhiwa) and Aduo Chuodho are examples. Boreholes are unlikely to support profitable income generation projects even if the water is not saline. Fish farming is only possible where there are springs - Department of Fisheries officers at Homa Bay say they no longer supply fingerlings to seasonally unreliable water sites.

5 SYSTEMS OF PAYMENT

Membership Fee

In order to be able to draw water from programme water points households are often required to join as participants i.e. project members. The water committee ideally does recruitment as per the initial guidelines of the RDWSSP and tenets of the community mobilization campaign. This recruitment fee varies from one shilling to two hundred shillings. The majority of members (64%) pay between shs 1/- and shs 20/-, commonly shs 10/-. This initial recruitment fee is difficult to assess as many committees have opted to charge per homestead not per household. Our unit of analysis in this survey is household (defined as one wife's home). An individual man can have a homestead with several wives. Many committees charge membership (or recruitment) fees by household others by homestead. For obvious reasons there is a measure of inequality in the latter method where the fee is not weighted against number of wives entitled to draw water. A man with one wife in some cases pays as much as one with multiple wives. But the "household" recruitment is by far the commonest.

At least eight water points do not charge any recruitment fee, relying entirely on monthly payments. The six that charge shs 100 - 200+ are remarkably efficient but it was felt that the charge was often per homestead. There seemed to be an inexplicable shyness in answering this question. We surmised later that the initial LBDA/RDWSSP position was "free access" and equitable drawing of water. Many committees that do not charge recruitment fee invoked this earlier programme position. Some water points e.g. Bondo Kosiembo belong to the pilot scheme where water drawing rights had no membership requirements.

Regular Fee

By far the commonest system of payment is by a regular monthly fee, at least in theory. 81% of all member households pay thus.

Following are the monthly fee by classes and percent frequency:-

shs	0.1 - 2.0	21%
	2.0 - 4.0	13%
	4.0 - 6.0	27%
	6.0 - 10.0	19%
	10.0+	5%

The majority of the well point committees charge less than shs 6/- per household a month for all the water the household needs. Only 24% charge more than shs 6/- while only 4% charge above shs 15/- a month. 14% of the respondents are charged less than shs 2/- a month and 34% less than shs 4/- a month.

Kiosk Method (Sale per unit drawn)

Six per cent of the well points either use this method or resort to it as deemed necessary. From our observations it is a cumbersome method and one that calls for immense self-discipline and superhuman trustworthiness on the part of the money-collector - always the pump attendant. It is invariably open to abuse and favouritism ("his clan gets free water") and breeds some conflict. Moreover the committee can hardly be expected to properly account for revenue on a daily basis. In a place like Ogongo Chief's camp, the pump attendant is for all practical purposes the owner of the cash receipts (perhaps with a committee protector), similarly the Luanda Konyango (Macalder) pump attendant who casually says he pays himself from the well revenue submitting only a minor portion to the only one committeeman he knows or recognizes. These maybe extreme cases but they illustrate the difficulty of this method.

Naturally the rate paid differs from point to point. It is generally one cent per litre but as high as three cents per litre. It would be interesting to compare this cost of water to most Kenyan urban water supply systems where low-income users are heavily subsidized not by the high volume users but directly by the public sector. In Nairobi the cost of one litre of water is perhaps 0.01 cents a litre. Herein lies an important question of equity but it is assumed that the high cost of water at these "kiosk" water points is meant to encourage users to either join or to pay monthly; except that the committees concerned were doing nothing to move towards a monthly mode of payment.

Commercial enterprises who are members of water point (restaurants, posho mills, brewers and lodges) use enormous amounts relative to households. They also make profits. In some cases they pay fees as if they are households which is grossly inequitable.

Conclusions and Recommendations

- 1) The kiosk method should be discouraged or abolished except in cases of non-residents and travellers (Matatus buy water at roadside water points in rare cases).
- 2) Recruitment fees should be made mandatory for all member households/homesteads on an equitable basis that is uniformly based on number of wives drawing water. This is already the case in more than 60% of the water points and is perfectly workable and straightforward in terms of accounting.
- 3) Commercial enterprises pay all fees (recruitment, monthly or per-unit charges) as if they are households. Since they use water for profit-making, and often in large quantities they should be charged a proportionately higher fee on their water counts than the households. RDWSSP should assist committees to assess the appropriate rates for profit-making enterprises.
- 4) RDWSSP should make initial membership a basic requirement for all committees. Incidentally such membership also gives a sense of belonging. The amount charged for members should best be left to the committee alone to assess. It is possible that "affordability" in some cases is such that many committees charging less than shs 10/- are depriving themselves of possible revenue.

(See under Affordability for related discussion)

- 5) Monthly fees are on the low side in many cases. Most people are willing to pay more for water service and if this in any way helps committees' preparedness for future maintenance should most certainly be explored. Any raises in monthly fees must take into consideration the income base of the region in question. Central and North Ndhiwa, North Mbita and Rangwe can often afford a slight increase. Those paying one or two shillings a month for any quantity drawn are benefitting disproportionately. Certainly commercial enterprises can pay more.

6 "AFFORDABILITY": ATTITUDES TOWARDS PAYMENT SYSTEM AND COMMUNITY RESPONSIBILITY

One of the major objectives of this enquiry was to determine to what extent the recipient communities can in the future afford to sustain all recurrent operating costs including spare parts, repair and possibly eventual pump replacement at non-subsidized prices. This means examining several factors:

- i) attitude towards current prices;
- ii) willingness to pay more and if so how much more;
- iii) sources of income;
- iv) suggestions for alternative modes of payment; and
- v) current financial performance of the water committees as a measure of this willingness to pay and that ability to afford.

Several questions in both questionnaires addressed this cluster of problems, from different angles and emphases.

Community Responsibility or "ownership" of water point

First let us examine the attitudes towards "ownership" that is taking collective responsibility for the running of the water point.

Ninety-three percent of all households answered in the affirmative to the Household Survey question No. 10 "Do you think the community should take responsibility for the water point?" Only 5.5% answered 'No'. Question No. 24 in the same questionnaire sought answers to "Who runs or owns this water point". Without prompting respondents answers were as follows:

LBDA (RDWSSP)	18.6%
Government	5.1%
Water Committee	9.3%
We Members (or community)	63.1%

The remaining 4% did not know, did not answer or assigned ownership to an institution e.g. Ndhiwa Rural Institute, to individuals e.g. "to Miss Rose" the headmistress of Minya School in Ndhiwa.

That notwithstanding 63% felt that the well is a community enterprise. Still the 24% response of LBDA plus government as

owners is a one if mobilization by RDWSSP had been thorough. The 9.3% "committee ownership" response is not quite so serious.

Open-ended responses to question No. 25 in the Household Survey are overwhelmingly for "harambee fund-raising" or related methods of raising committee finances for future maintenance. It should be pointed out that this was often after quite involved discussion on the part of the enumerators to explain that repairing the pump and paying for other operation costs may have to be done by community and committee. This seemed like news to most where breakdowns and subsequent deprivation of water have never occurred there is not yet an immediate appreciation of the system ever not functioning.

Most respondents, 91%, have experienced enough improvement in the quality of life since the installation of the water as to make them willing to pay more for necessary future maintenance. A similar number, 91.5% are satisfied with current water services while 8.5% are not.

Current Fee (price) and Increased Future Fee

The issue of the suitability of current prices was tackled in two questions - Nos. 13 and 14. Only 8% of the respondents thought that the current price is too high. 89% thought it is right and 86% thought that programme water is worth paying a little more for. 11% thought otherwise but mainly from a poverty ["can't afford"] point of view. But when asked to name the extra amount they are willing to pay, 47% opted for zero "for the moment" an apparently irrational situation explained perhaps by a great willingness to pay more but not yet translated into ready cash.

How much more per month?

shs	0	47%
	1	17%
	2	10%
	3-10	19%
	10+	7%

In Macalder many said they are willing to pay a little more but simply cannot afford to pay now as they were already in arrears or that water is God-given.

In fact seen from the point of view of actual committee collection it is clear that the willingness to pay more does not always mean that they do actually pay the current fee. Many members are in arrears and committees seem unable to motivate payment of higher rates or payments without resorting to total denial of drawing rights.

Due to a combination of factors, of which "affordability", willingness to pay and committee managerial skills are crucial, 48% of all committees had between zero and 1000/- at hand or in a formal bank account. Thirty-one percent had no financial assets or no bank accounts and several could not even afford to pay the pump attendant.

Household Income Sources

No direct estimates of income sources were sought or done. The survey merely sought to establish where households obtain cash for water fee payments. Determination of household income levels needs specific studies for that purpose.

About 55% of the households have a "farm-based income while both "own-savings" and remittances from employed relatives account for 30%. Since the farm income is often from sales of surplus subsistence farm produce and not from direct commercial crop revenue it can be seen that it is a variable quantity indeed. It is likely to fluctuate with seasons and weather changes. If committees depend on such sources for operational costs, obviously deficits will be frequent as members' arrears mount. The 'own-savings' and remittance category is more reliable but not many households admit this as a source of water fees.

Following is a breakdown of cash resources:

% Households

A	10.6
AB	2.1
B	53.4
BC	3.0
BCD	.8
BD	2.1
C	4.7
CD	.8
NA	3.4

Where A = own savings
 B = farm income
 C = salary/wages
 D = remittance (relatives)

In several cases women said that they take up wage employment [as farm labourers] to raise water fees. In no case did water-based income generation revenue feature as a source of cash. At Kanyugira in Rangwe where a women's group runs a successful poultry enterprise the high income does not seem to benefit the

committee's finances.

It seems that methods of payment other than cash are theoretically possible but in forms that would be cumbersome and are not useless for committee solvency. Asked to choose from four alternative modes of water fee payments [labour, materials, farm produce and other] 60% mentioned labour, about 10% material [poles, gravel] and 20% farm produce.

Conclusions and Recommendations

Two apparently contradictory trends are evident: one is a high degree of satisfaction with the RDWSSP water points and consequent willingness to pay more to ensure maintenance of them well; the other is that in fact when it comes down to actually producing a cash payment, even modest charges as are currently the case, not all families can always avoid falling heavily into arrears. The overall income base of the area is too fragile to support reliable cash flows to all households. There are virtually no cash crops. Abundantly productive areas like Northern and Central Ndhiwa with banana, sugarcane, grain and livestock are slightly better off than Macalder. But in general affording the fee is already a problem in some locales there.

To compound this is the excessively low charges committees at many water points have assessed for members to pay. Indications are that in many places members can afford, and are willing to pay a little more so as to enable the committee to pay the pump attendant. Committee could "up the rates" in some areas.

No committee should charge less than twenty shillings per household for initial (mandatory) recruitment fee. In places like Kodemba (Mbita) where money income is visibly no higher than elsewhere, recruitment fee is 50/-.

Generally a reasonably high recruitment fee might instill a feeling of belonging if families have to work harder to obtain it. The dilemma posed to the Programme that high fees will make people turn back to traditional unsanitary water, while a reduction maybe overstated in many areas. In Macalder during the wet season it is a great probability but elsewhere the willingness to pay more should be exploited gently. Incidentally water points with high recruitment fees tend to have higher bank balances. Agolo Muok, Aora Chuodho, Kaduro and Kodemba, for example.

Another complication is the apparent inability of the committee to ensure payments and to motivate communities to pay promptly. I think that beyond income levels and beyond the ability to afford, committee performance in eliciting cash generally leaves a great deal to be desired in many places. Harambee fund-raising for committees in the community should be encouraged as follows:

seem eager to respond.

7 COMMITTEE FUNCTION AND PERFORMANCE

This section as indeed the entire report should be read with the understanding that in fact most committees are reasonably successful, although the evaluation seems to emphasize the weaker ones.

Committee performance is perhaps the single most important determinant of the success or failure of a water point and of the entire RDWSSP concept. The following areas depend on a committee's managerial competence:-

- a) Recruitment of members and collection of fees/
- b) Motivation of the members and the community to take greater or increasing responsibility for the water point including paying dues in time.
- c) Informing members regularly on well affairs including state of finances.
- d) Managing the water point by having:
 - a pump attendant
 - a lock, a fence, a gate and a latrine
 - regular cleaning up and clearing of site
 - reporting malfunctions to programme officers.
- e) Meeting often to direct water point affairs.
- f) Maintaining records of:
 - finances - revenue, expenditure, bank account.
 - members' payments' status
 - minutes of meetings

It should be remembered that in a peasant setting modern management practices are to say the least incongruous if not unintelligible. People are mostly barely literate or numerate. Few have had prior experience in running an enterprise individually let alone collectively or in committee. Except where there are teachers and other members of the elites (retired petty professionals or civil servants) few peasants understand the logic of technology, its exigencies or needs for its maintenance.

Despite all these constraints the RDWSSP has managed to create

water point management units with communities choosing their representatives. These communities have, within a relatively short time done impressively well considering the handicaps.

Here are some household impressions of their respective committees:-

- 1) Of all households 70% thought their committees were doing their work well as compared to only 14% who rated their committees as poor. Four and half percent were rated as doing very well. The rest had no opinion or did not know- a significantly high number at 12%.
- 2) The following is a table of household responses to question 9: What problems has program had since it started? which refers to water point management.

a. Committee not functioning	8	i. No one to repair	1
b. Political problems	3	j. Water system breaks often	3
c. Water wastage	2	k. Repairs delayed	1
d. Limited hours of service	10	l. Don't know	9
e. Pump attendant absent	8	m. Water is expensive	2
f. No problems have occurred	39	n. Rates are high	1
g. Not enough water	18	o. Embezzlement	1
h. No spare parts	0	p. No bank account	5

Interviewers' observations result in a similarly positive view of committee performance. According to their personal judgement 64% of the committees visited were performing well. Thirty six percent were not managing well. This is an interesting figure- 36% as seen below but care should be taken not to over generalize as there are questions where institutional (i.e. schools) management influence the frequencies.

On all questions that deal with committee performance there is a consistent 20-40% negative answer which needs further comment. But first let us see where this occurs:

- a) Status of committee books: 57% fair or good. But 41% poor, nonexistent, dont know or missing which are negative reflection of committee performance.
- b) Cost to maintain and operate well point in the last 12 months: 31% "dont know", again not very good management upkeep for those water points. Similarly for repair costs in the last 12 months - 29% "dont know".
- c) How do members pay? - 22% get water free of charge, another serious managerial malfunction for purposes of this evaluation.
- d) What are the hours of service?
"All the time" - 18%. Shows little or no control of water point by attendants at those wells and an undesirable free access at all hours.
- e) What is the committees general attitude towards the programme? While an impressive 67% are positive or very positive, a significant 33% were indifferent or not there to be judged.
- f) Physical appearance at service points (as observed by interviewers):-

No protection against contamination 33%

No separation from animals 44%

These two refer to areas where a committee can directly change the situation at virtually no cost. Similarly: "Any latrine at the site?" - only 9% had one, most of which unused or unclean.

- g) Finally and more seriously 31% of all committees had no evidence of a bank account or of cash at hand (not again the influence of school wells whose accounts are done by the schools).

This consistent 20-40% failure by committee is significant to the evaluator. It represents the "pull-down effect" towards poorer performance. Evaluations are often not based on the average or the best performance but on the failures or the failing as these tend to bring out the underlying stresses in a project.

What is the main cause of these poor performances? The following account draws heavily from the consultants observations, the data interpretation and discussions with interviews and Programme officials.

Committee Performance and the Initial Mobilization

The Community Development Component sought right from the start to sensitize the recipient communities as to their duties and role as active participants in water point affairs as well as training the committee in simple management techniques including bookkeeping. The 60%+ good performance on most parameters might at first seem very good. On further analysis it transpires that there is perhaps a slow rate of decline likely to affect this percentage negatively. In Western Macalder there seems to have been little effective mobilization done and little if any training of committees. Several committees encountered have only vague ideas what their duty or mission is. Ndiwa is a perfect example of this. Communities there are indifferent to an unusual degree. RDWSSP officials explain that a particularly incompetent extension officer (now replaced) was to blame. Other divisions are somewhat better except in one respect - follow up.

Most local extension work seems to have been suspended in Mbita, Ndiwa and Macalder except when an officer from Homa Bay makes a visit. It seems the programme is strapped with staffing problems and has had to use older experienced extensionists in the new districts to carry out socio-economic surveys.

This will affect the older projects quite negatively and I submit that it may cause some of committee backsliding.

(See under "RDWSSP Collaborating Ministries" for the role of others in follow up work).

b) Many committees do not call general meetings regularly so that there is not enough rapport between households and the management. Much public suspicion is beginning to emerge as to the fate of committee money. Indeed some committeemen themselves claim ignorance as to the fate of the kitty. The Community Development Component has not always insisted on guidelines on general meeting procedures. In some cases nobody in the committee knew of the statutory guidelines on such issues where public money is being handled. RDWSSP correctly maintains that the Ministry of Social Services and Community Development should have taken a more active part by now. It was not always clear what the guiding protocol between the programme, the local ministry officers in the field and the committee are. LBDA should formalize some understanding in this regard.

There is one exemplary case where Department of Community Development officials have dragged their feet until a severe, armed conflict erupted between opposing factions: at Pedo Women's group in Mbita, the original landowner has stifled well point activities (nursery) and urged his sons to fight the water users and the new pump attendant. The conflict is such that the landowner seems to have renounced the original agreement to part with the plot and has constructed an unsanitary cattle watering hole one metre from the well point. Settling such a dispute is up to the Community Development Department of the ministry not RDWSSP's. Yet the history of such a dispute may be related to the initial siting, community mobilization and committee selection.

Non Functional Committees

In several instances the chairmen can no longer control the committee affairs or proceedings let alone liaise with the community. During the survey it was discovered that at least 10 committees or about 22% had failed to function for one reason or another. The following are good examples of non-functional committees:-

Luanda	Macalder		
Kachola	Mbita	Ochieng Odier	Mbita
Mzari	Macalder	Abuoro	Ndhiwa
Minya	Ndhiwa	Ndiwa	Macalder
Ongongo-Chief's C.	Ndhiwa	Modi Angugo	"
Nyasoko	Ndhiwa	Orembe	Ndhiwa
Bondo Kosiemu	Ndhiwa		
God Jope	Mbita		

In several cases there exists serious tension and sometimes open conflict - Luanda like Pedo, needs urgent arbitration in this regard. Quite often when this situation arises the pump attendant - the everyday point of managerial contact with water consumers and project members - often becomes torn between opposing interests. Quite often these interests are of the following origins according to information garnered from various committees:-

1. Clan rivalry where a history of ill-feelings already existed.
2. Money collection and suspicions and power struggles.
3. External influences - e.g. chiefs, councillors. [At Modi Angugo the pump attendant supported a political candidate who won and took him with him].
4. Untrustworthiness or unreliability of pump attendant himself.

Too often the pump attendant, the most intensively RDWSSP trained official at the well point either sides with one side or having refused, is fired or simply quits leaving the pump under untrained attendants.

Committee Finances

In the final analysis this is the most objective measure of a committee's success in motivating its membership and the community to participate in, and to support the well point. Fourteen committees or 31% have no account (this however includes several institutions run directly by school funds). Seventeen percent have less than shs 1000/- in accounts. These figures show that such committees can hardly afford breakdown costs and at the same time pay such recurrent costs as pump attendant's wages. Twenty-two percent had between 1000/- and 2000/-, the breakdown point by RDWSSP's assessment. See table below for distribution.

Distribution of "Amount-at-hand" or Bank Balances

	<u>Frequency</u>
NA & 0	14
280	1
460	1
500	1
700	1
800	1
900	1
1000	2
1100	1
1116	1
1200	2
1300	1
1400	1
1600	1
1609	1
1800	1
2000	1
2065	1
2100	1
2120	1
2240	1
2500	1
3000	2
4000	3
4291	1
4600	1
7000	1

Several instances of documented embezzling were reported (Ochieng Kodiere and Minya) but otherwise many committee seem quite conscientious about public money. The major problem is failing to inform the communities concerned of the fate of money collected.

Committee Expenditure

Although many committees pay their pump attendants a token fee [50 - 250/-] some do not pay theirs anything or have had to stop for financial reasons. The pump attendant's "salary" accounts for the committees highest regular operating cost where breakdowns have not occurred. It seems that the pump attendant should be in all cases paid as he is performing a demanding service to a public that is theoretically supposed to be paying for that service.

Another unperceived expenditure is that of banking the proceeds. It turns out that travelling back and forth to a town for banking or withdrawing by the two obligatory signatories is a very expensive exercise. This has forced many distant committees to go only as rarely as possible as it makes little sense to pay shs 100/- for travelling to deposit 200/- or so. Treasurers have become the keepers of the cash in such committee. This problem is a common one where banks or post officers are far removed from rural populations.

Following Table shows repair and maintenance expenditure for the last 12 months in frequency %:-

<u>shs.</u>	<u>Maintenance</u>	<u>Repair</u>
0	9	20
0 - 100	4	2
100 - 300	7	9
300 - 500	4	16
500 - 1000	20	4
1000+	29	4
Don't know	29	22
NA	8	22

Conclusions and Recommendations

- 1) Most committees scored reasonably high in most areas of performance. The ones that scored low were examined in greater detail to ensure that there is not an emerging tendency of backsliding by committees or if so, the cause of it. There is great need for concerted and frequent follow-up and supervision of all committees.
- 2) Line Ministries [MOWD, MOSS & CD, MOH] should be gradually involved in more follow-up work after hand over by formal agreements and informal consultations. In many areas these ministries do not yet have as reliable field work capacity as the RDWSSP but their personnel can be made to participate with programme initiative. Thus committees will be aware of this resource.
- 3) More training of committeemen is needed in such areas as simple accounting (bookkeeping) and management procedures.

- 4) RDWSSP should consider standardizing the entire bookkeeping system for all committees to avoid the practice of disparate scraps of unfiled paper acting as committee records.
- 5) Firing a trained pumpman should not be done without the knowledge of programme officers. Conversely engaging an untrained attendant must be with full knowledge of the Technical Component so that training can be undertaken immediately.
- 6) Committees must be made aware of the Ministry of Social Services and Community Development's role in offering certain community services and in arbitration of disputes. The Programme should immediately assist settle the more glaring ones including the Ndhiwa town wells which lost their bank accounts after more wells were installed.
- 7) All committees should be made aware of the need for regular public meetings where water point matters are aired, finances explained and the community made to feel part of the process.
- 8) The programme is best placed to assist committees that charge too low a set of fees to assess more appropriate rates upwards.
- 9) All committees should have a formal bank account as a matter of obligation - even if banking is done irregularly in cases of remote water points.

8 COMMUNITY MOBILIZATION AND EXTENSION

In this section are a few remarks on this aspect of the Community Development Component's main functions. Much more information on this component is also diffused in other sections.

Prior to construction of water points an intensive community mobilization was undertaken for wells dug after 1985 to conscientize prospective beneficiaries. Health and sanitation and responsibility for water points were the main emphasis. The following text excerpted from an early RDWSSP field manual gives a hint of how water committee organization and mobilization was initiated. Quoted from An Information Handbook to Assist the Water and Sanitation Extensionists - LBDA/RDWSSP (1985?), page 17.

"... Organization of Water Committee

- The organization of water committee can be done by

having barazas at:

1. Locational level
2. Sub-Locational level
3. Village level

- Before one has a meeting at the above levels, she/he should first of all mobilize the departmental heads of the division in question particularly of the relevant Ministries i.e. Culture and Social Services, Ministry of Health, Ministry of Water Development, etc.
- Some of the work programmes should be made together with the department heads so that we have joint meetings to address as it is pointless to mobilise one in the office without taking him/her to do the actual work in the field.
- After mobilizing the departmental heads, together with them you will start mobilizing the chiefs and assistant chiefs who in turn will help to mobilize the target communities. But how do we mobilize the departmental heads, target communities chiefs and assistant chiefs. In fact this is basically done by creating a friendly atmosphere which in turn depends very much on the approach and presentation of an individual. As the communities are composed of varied ages, one has to learn how to talk to the varied ages. In fact more attention should be paid to "adult language" which will help in proper communication. In fact when one intends to work with the rural communities or organize them to achieve the targets he/she must have proper rural communication and rural communication simply means creating "commonness" with rural communities and will lead to acceptance in the community. How one creates "commonness" depends on the community you work with. It is true that some communities are very difficult to organize regardless of how much you do to create the so-called commonness. In such cases one has to identify exactly who is the opinion leader of that community and use the opinion leader to help you organize them, but before one uses the opinion leader to help organize the people, he/she has to mobilize the opinion leader in the same way he/she mobilizes the chief, assistant chiefs and departmental heads. In that way, one may succeed in organizing such difficult communities and it is always the case changing the attitude of the people is the most difficult thing in the organization of the water communities."

Extension work after handing over seems to slacken judging by the low number of visits and meetings (even barazas) that have tak

place. There is some danger of backsliding for want of follow up. RDWSSP has had to concentrate most extension personnel in the new districts at the cost of the old divisions. This may hurt the high performance water points and pull down the projects standing. As mentioned elsewhere initial mobilization seems critical in determining the trajectory of a water point viz. Macalder's poorer performance. But just as critical is the post

hand-over maintenance and re-inforcement through intensive extension work.

Women' Participation in Water Point Affairs

Women are the main beneficiaries and users of water points. Accordingly their degree of involvement in the running of the water point will necessarily affect its success or failure. An impressive effort by the Community Development Component has resulted in 88% of all water points having at least one or two women in committee positions. The ones who do not have women are often those not run by communities but by institutions.

Women in Committee	% Water Points
0	11 (mainly institutions)
0 - 3	31
3 - 6	33
6+	24

Where there are Women's groups e.g. at Magare and Kanyugira women are the main managers of the water points. Five women pump attendants were encountered, several chairpersons and many treasurers.

A word of caution is necessary - in some cases overenthusiastic extensionists insisted on women chairpersons with no consideration for their ability. At Orembe an extensionist made a lady the chairperson and thus affected the committee's effectiveness. It has now become moribund.

It was common to find wives or sisters of committeemen becoming committee members. At Nyakayiamba, for example. Wives of chiefs were often also found as committee officers, for instance at Mukuro. There might arise conflicts of interest. The community may also nurture undue suspicions especially when the treasurer is related to influential persons in the community.

Women's Groups

The following water points had active or semi-active women's groups:-

Magare	Pala
Kanyugira	Kikongo
Aora Chuodho	Kodemba
Pedo	Malela

The following are dormant and make little contribution to water point affair as groups:-

Waondo
Kacure

Kaimbo
Kikongo (the only one in Macalder)

There is a definite direct relationship between a successful water point and an active women's group. Other organisations (e.g. CARE-Kenya, UNICEF and churches) have strong inputs into the women's groups e.g. at Magare and Pala.

Training by RDWSSP

RDWSSP health and sanitation training programme before and after installation has reached at least one adult in 21% of the households in the sample. This figure rises to 28% if Macalder is excluded. This is a considerable achievement although the large figure of more than 70% who have never had any training needs addressing. Also the quality of the training imparted to the 21+ % needs examining as to its context and impact.

It seems that most training was based on baraza speeches. Between 22% and 26% of the households have been to committee or RDWSSP barazas in the last 6 - 12 months. One suspects that these are largely the training sessions alluded to in the earlier question. If so it means that both the Programme and the committee need to refine their training to include smaller groupings and avoid the baraza format.

The Group Action Education where senior Programme officers travel together to visit several committees together is inadequate for intensive skill transfer. In any case few committees indicated having been trained in specialized skills except the pump attendants where 78% have been formally trained, in some 4% of the cases having more than one trained. About 8% of the water points were run by untrained attendants where the original ones have left.

No formal training has been undertaken in sanitation matters reportedly in 56% of the water points except what the pump attendant obtained in his training. Informally however, barazas have been held for virtually all committee, except occasional cases in Macalder.

Regrettably finance and bookkeeping skills have been wholly neglected - zero scores for formal training in this area from all committees, although it must be noted it is not an easy area to train quickly to semi-literate people. Where there are teachers

in committees records tend to be well kept even without the training.

Conclusions and Recommendations

1. More extension officers especially "piki piki cadres" should be employed and trained in RDWSSP social work so as to relieve the programme of the excessive demand for socio-economic survey personnel in the new districts. That way there will be permanent divisional officers in the older project divisions.

It seems that the Technical Component tends to move faster than the social work can keep with, which is natural. But the social work is the more important determinant of success and must not be rushed for the mere sake of keeping pace with the technical side. Such a rush might be at the risk of many future Macalder-like situations. It might be a better option to slow down technical work in areas where social work has been found difficult or slow.

2. The new Women's Section's plan to train selected women leaders from selected water points for diffusion purposes might be an excellent approach for a difficult problem. More intensive courses like the May 1988 one in Migori can only assist in skill transfer and creation of sanitation awareness.
3. The new Training Section, likewise, has the challenging job of designing novel ways for imparting skills to all levels of the programme. Efforts should however be made to start training from the bottom: the households and the committee not at the office. The baraza and lecture method, so easy to resort to should be avoided for field staff and the community.
4. In this spirit the Group education visits need to be reconsidered and if possible stopped or minimized.
5. A mass campaign (pamphlets and posters in vernacular) might popularize some ideas (e.g. participation, sanitation) to the community. Films on similar lines are a powerful medium, if well designed and produced for the purpose.
6. RDWSSP should seek ways to link up with NGOs doing women's group work during the initial mobilization in order to diversify input and perhaps ensure higher success rates with women's groups and hopefully water points.
7. Extensionists should take care to ensure that women in committee positions are not mere fronts for powerful men or

husbands. The principle of possible conflict of interest might be invoked.

RDWSSP AND THE COLLABORATING MINISTRIES ORGANIZATIONS, AND LOCAL INDUSTRY

The LBDA has been bound to work closely with and to be represented in all District Development Committees (DDC) in its areas of jurisdiction. RDWSSP is thus represented in the South Nyanza DDC where all development issues in the district are tabled and discussed. In addition the RDWSSP involves agreements with the Ministry of Water Development and the Ministry of Health. The Ministry of Social Services and Community Development is a service ministry in matters of community organization.

As far as we could gather relationship with officers of these ministries is good and workable. A problem seems to exist, however, where ministries cannot always be fully active in the field as necessary. This is related to budgetary constraints and lack of such facilities as transportation.

The programme has tried to involve the line ministries in its activities but always by taking the initiative on the ground. It seems that this situation has to continue until the ministries' capacity to be more active in the field can be bettered. In some areas - e.g. around Homa Bay and Ndhiwa town - MOH and MOWD officials are already visibly active, elsewhere transport problems keep them mostly immobile.

Transfer of more supervisory or follow-up responsibilities to these ministries should be the ultimate goal but there is some risk that if this is done too rapidly places like Macalder and Southern Ndhiwa, if not the entire programme area might begin to retrogress for want of follow-up. The performance of MOWD in some localized water schemes has not always lived up to expectations due to poor maintenance and non-permanent breakdowns. This is a fate to avoid in these initial stages for a project as successful as the RDWSSP while the communities and the committees are hopefully finding their own feet towards self-reliance.

LBDA should in the meantime use whatever influence at its disposal to ensure that the absorptive capacity of these ministries is strengthened and improved so that they participate fully in what is after all their work in the field. Transfer of programme activities should be done systematically according to these ministries current ability to take on extra field work.

An example of this apparent inability was narrated by an office in Nyanza whereby a UN agency and an NGO had funds to assist in small rural water supply and sanitation projects. The money was available for a long time for the taking yet despite DD insistence, nothing was done on the ground. The funds were eventually diverted by the donors to another district with more facilities.

This highlights another advantage of RDWSSP over line ministries in terms of ability to carry out direct action promptly. Within a period of less than five years the programme has developed an impressive technical capacity to implement water and sanitation activities. They have created an efficient infrastructure for the localized production of the following items and services by local entrepreneurs to RDWSSP standards.

- a) Construction of boreholes
- b) " " VIP slabs and vents
- c) Large concrete rings
- d) Pumps and pump spare parts
- e) Concrete superstructure and slabs
- f) Well installation contractors
- g) Transport contractors

These are knit together in a technically well-supervised system manned by RDWSSP-trained technicians who are now able to run the project's technical side, as far as I could gather, quite well.

The key to this success is not just the training but also the ability to act more quickly than ministries who are often constrained by time-consuming procedures e.g. tendering, in addition to other factors. Indeed it may be more efficient to make this very efficient RDWSSP machinery or infrastructure available as a service to the ministries and NGOs who may have plans for rural water and sanitation projects.

Perhaps RDWSSP could also use this current advantage on the ground and the general goodwill of LBDA to insist on a standard well and pump design for their region. If all organizations utilize such a standard system it would greatly assist in reducing per unit costs in construction, equipment and maintenance.

APPENDIX 1

HISTORICAL BACKGROUND AND OBJECTIVES OF RDWSSP

The LBDA was constituted by an Act of Parliament in 1979, one year before the United Nation's International Drinking Water and Sanitation (1981-90) Decade commenced. Of the thirteen functions spelled out by the founding Act seven refer to water resources. LBDA correctly considered safe water supplies in the rural areas, where most people in their jurisdiction live "as one of its cardinal responsibilities".

There is a perennial clean water crisis in most of Nyanza Province. Only a tiny proportion of Nyanza people benefit from any organized water supply systems and less so in South Nyanza.

Ndhiwa, Mbita and Macalder populations have even more extreme hardships with potable water availability especially during the dry season. Long treks of up to 10km were common for housewives in search of water. A great deal of community energy and labour are directed towards water acquisition. Moreover such water as is available from traditional sources is often unsanitary and barely potable. Bacterial, protozoal and other parasitic infestations are endemic, leading to excessive rates of human illnesses and mortality - especially of infants from enteric and related water borne diseases.

The relevant Government departments and ministries (MOWD, MOH) as well as non-government organizations have for many years attempted to remedy this major health and social problem often without success. Some urban and semiurban centres have had small-scale piped water supply systems but in general the experience in much of South Nyanza has been that such centralized energy-intensive systems do not succeed and soon fall into disuse.

The idea of a decentralized small-scale, rural, manually-operated water-supply system which is managed locally, while not entirely an innovation of the LBDA/RDWSSP seems an excellent approach to resolving the problems of water supply, sanitation as well as problems of management failures inherent in larger projects.

In 1982 LBDA with Netherlands government assistance started a pilot project on shallow wells with DHV Consulting Engineers (of the Netherlands) as the main contractors. The main objective was to determine the feasibility of shallow wells as a low-cost solution to safe water provision in rural Nyanza.

In 1983 LBDA organized a Shallow Wells Workshop at Kisumu where the primary outlines of the RDWSSP concept were first broached

and discussed, especially the need to base the water supply on community participation and responsibility in order to ensure self-reliance in up-keep and maintenance by the beneficiary community itself.

It was recommended that an ideal entry point in starting to motivate the beneficiaries to participate was not the mere provision of water itself but in addition the immense health benefits resulting from safe water. A health and sanitation training component was therefore formed as a part of the community mobilization campaign. This was specifically to be directed at women as the principal water users and homemakers.

Technical and socio-economic surveys were undertaken by DH Consulting Engineers and LBDA respectively starting in 1984.

The findings of the Shallow Wells Pilot Project, the recommendations of the Shallow Wells Workshop of 1983, the technical and socio-economic surveys, all formed the basis for the formulation of the initial RDWSSP five year plan submitted in June 1984. The Rural Domestic Water Supply and Sanitation Programme (RDWSSP) started in 1985, under Bilateral Aid Agreement between the Governments of the Republic of Kenya with the Lake Basin Development Authority as the executing agency and the Royal Kingdom of the Netherlands. Ndiwa and Mbita divisions were among the earliest areas surveyed and supplied with wells.

Objectives of RDWSSP

The following are some broad activities aims and specific objectives of the RDWSSP as stated in various LBDA, DH Consulting Engineers and programme documents. Only those objectives that are relevant to this evaluation are stated. Thus many of the technical objectives and activities are left out for brevity. They can be found in detail in the official programme publications.

The Rural Domestic Water Supply and Sanitation Programme has two major objectives:-

- The improvement of the quality of life of the people of Nyanza Province;
- Making the recipient communities responsible for the operation and maintenance of the water and sanitation facilities on a sustained basis.

The Programme aims to achieve the objectives through:-

- The provision of clean safe water for domestic use;
- Construction of demonstration VIP latrines and

encouraging individual families and groups to construct their own by providing vent pipes and slabs to those who have endeavoured to dig the pit;

- The provision of health/sanitation education which aims at helping communities to reduce mortality rates, especially among mothers and children, due to water-borne and water related diseases and unhygienic practices;
- Intensive community mobilisation for the formation of water committees, collection of maintenance fees etc.;
- Mobilisation of women for greater involvement and participation in Programme activities, such as:
 - Membership in the committee;
 - Water usage;
 - Water related and other income generating activities etc.

In relation to the above ways and means of achieving Programme objectives, the following activities have been and will continue to be carried out:-

- Socio-economic Survey of the population in the Project areas with a view to determining and prioritizing needy communities which should receive the Programme services first;
- Mobilisation of the selected communities to form water committees and to collect maintenance fees leading to full responsibility for operation, maintenance and management of the water points being handed over to them;
- Construction of water points in the designated Project area following the siting by the Project in collaboration with the local development committees;
- Training the water committee members and pump attendants on the maintenance system, leadership skills and book-keeping in order to facilitate the smooth handing over of water point to the beneficiary communities;
- Mobilisation of women well committee members to venture into income generating activities and to construct laundry washing slabs etc;

- Production and distribution of health education materials targeted for dissemination to organised forums;
- Construction of institutional demonstration VIP latrines, manufacturing and distributing of toilet slabs to participating community members;
- Conducting baseline surveys on local attitudes towards latrine ownership, usage and sanitary practices in general;
- Monitoring and evaluation of the Programme performance.

Community Development Component

The basic elements of the Programme's Community Development Component are set out in the RDWSSP Workplan 1985 and elaborated in the Workplan 1988. Briefly the Programme was envisaged as consisting of a two-pronged approach namely community mobilization to take responsibility for well maintenance and heightening awareness in health and sanitation.

Particular emphasis is paid to the special role of women as both water-users and household managers. Accordingly the Community Development Component has incorporated a Women's Component to facilitate the women's input and participation in water point and sanitation affairs.

APPENDIX II

REASONS FOR NON-MEMBERSHIP

WATER IS EXPENSIVE THERE IS ANOTHER WELL AND THE WATER IS JUST THE SAME OR CLEANER THAN PUMP WATER THE DISTANCE IS LONG WATER

IS EXPENSIVE AND THERE ARE OTHER WATER SOURCES ,THEY WANT THEIR OWN WATER IN THEIR SUB CLAN

THEY WANT THEIR OWN WATER POINT HERE

THE WATER SOURCE IS 3.KM FROM HOME THE OTHER IS NEAR

WATER IS WATER AND THE RIVER IS CLEAN AND NEARER THAN THE WATER POINT

WE GET WATER FROM AORA KOMOLLO,AKELLE AND MIROGI,PREFERE STREAM WATER AS OPPOSED TO SELLING WATER

WE LIVE CLOSE TO THE RIVER,THE WATER IS FAR AWAY.GOV'T WATER SHOULD NOT BE PAYED FOR WE NEED A WELL

I HAVE A RESERVOUR AND PIPED WATER,I ALSO TRAP RAIN WATER,I SAVE ALOT OF TIME,THE WELL IS TOO FAR

THE WELL IS FAR AND YET SAID TO HAVE FAMILY PLANING MEDICINE IN IT,I CAN NOT BUY WATER,THERE IS ENOUGH NEARBY

A TANKER BRINGS WATER WHEN THE PIPES ARE OUT OF USE,THE WATER IS ONLY NEXT DOOR WE DONT PAY FOR IT

THE RIVER IS VERY NEAR,AND THERE IS A PROBLEM BETWEEN THE TWO CLANS OF OREMBE AND OYIENGIRA HENCE THE ROAD IS DANGEROUS THEY USE OTHER SOURCES BECAUSE THE WATER IS EXPENSIVE

WE ARE NOT MEMBERS SO WE HAVE TO PAY A BIG AMOUNT OF MONEY

WE ARE FAR OFF,NON MEMBERS USE MABATI WATER

HAS MY OWN WELL FOR THE WHOLE YEAR ROUND

WE LIVE NEAR NYAKACH SPRING.THE PUMP ATTENDANT IS BIASED,THERE IS A LONG QUEUE DURING THE DRY SEASON

HAS A WELL AT A NEIGHBOURS PLACE WHICH THEY USE

FAMILY HAS A HAND DUG WELL THAT SERVES THEM

LIVE CLOSER TO THE LAKE .THE WATER POINT IS UPHILL WE ARE NONMEMBERS

HAS A CLEAN SPRING NEAR. WATER POINT IS 2 KM AWAY

WE ARE NONMEMBERS AND CAN FIND WATER ON RIVER KASAJINI AND GOYO POND IN DRY SEASON

PREFERS KAJODE WELL WHICH NEVER DRIES EVEN IN DRY SEASON

PREFER KAJODO SPRING THE INSTITUTE DIRECTOR REFUSES US TO COLLECT WATER THERE.WATER IS ALSO SALTY AND DIRTY WHEN RAINING KOSEWE SPRING IS VERY NEAR THE WATER IS PLENTY.THE PUMP IS FAR OFF

POND IS NEAR RIVER KUJA IS NEAR IF POND DRIES UP.THE WELL POINT IS FAR AND EXPENSIVE

WE LIVE CLOSER TO SEGERO STREAM,KOBERE SPRING AND KOSEWE SPRING .THE SPRING WATER IS CLEAN AND SOFT

LAKE WATER TASTES BETTER,THE WATER IS GOD MADE AND IS BEST,I DONT HAVE TO PAY ANY MONEY FOR LAKE WATER

WATER IS EXPENSIVE AND SINCE AM OLD THERE IS NO WAY I CAN GET MONEY

WE HAVE A SPRING NEARBY THE WATER POINT IS FAR AWAY

DISTANCE FROM HOME TO WATER POINT IS FAR THOUGH THEY LIKE THE WATER VERY MUCH.THEY NEED A WATER POINT CLOSER TO THEM

HAD NO MONEY TO DEPOSIT AS A MEMBER

SEES NO DIFFERENCE BETWEEN LAKE WATER AND PUMP WATER

WATER IS EXPENSIVE.WATER SHOULD BE FREE .WATER POINT IS NEARER THAN THE OTHER SOURCE

WATER POINT FAR AWAY AND WATER IS EXPENSIVE.EASIER TO DRAW WATER FROM LAKE ITS NEAR AND FREE

LAKE WATER TASTES BETTER AND WELL IS EXPENSIVE

KANYANKE CLAN WANT THEIR OWN WATER,CLOSE TO RIVER LAMBWE AND THE LAKE.NO MONEY FOR MEMBERSHIP WE ARE POOR

APPENDIX III

HOUSE-HOLD SOCIO-ECONOMIC QUESTIONNAIRE

Total No. of Wellpoints in sample	45
Total No. of households in sample	277
Minus nonmember households	37
Minus spoiled questionnaires	4

Valid No. of member households = 236

(NB: Refer to enclosed questionnaire for full questions as some are abridged here for brevity).

Q.1. No of Persons (adults and children) living in this house?

(a) Mean 6.4

(b) Frequency	Size	Percent
	1 - 3.0	17.7
	3.0 - 5.0	26.7
	5.0 - 7.0	24.6
	7.0 - 9.0	11.6
	9.0 +	19.4

(c) Stratified by division

Macalder	5.7
Mbita	7.6
Ndhiwa	6.3
Rangwe	5.7

Q.2. From where do you get water? Frequency %

	Wet Season %	Dry Season %
Water point only	30.5	58.5
From <u>other</u> sources only	13.1	1.7
From both	55	41.9

(b)

See appendix (II) for list of reasons other sources only from 37 households not participating.

Some common responses: "There is another source nearby", "Water is expensive."

Q.3 No. of trips made to the water point each day and the amount carried per trip. Frequency %

No. of Trips	Prog. water		Other sources	
	Wet Season	Dry Season	Wet Season	Dry Season
0	17.8	1.7	40.3	57.6
1	14.8	5.5	13.6	14.8
2	23.3	18.2	14.8	11.0
3	16.1	14.4	9.3	8.1
4	14.0	22.0	8.9	3.4
5	4.7	12.3	3.8	0.8
6	6.4	11.9	4.7	1.7
7	0.8	3.4	1.7	0.8
8	0.8	3.8	0.8	0.8
9	0.4	0.8	1.3	0.4
10	0.4	4.7	0.8	0.4
12	0.4	0.8	0.0	0.0
13	0.0	0.4	0.0	0.0

Amount carried per trip

Volume in Litres	Prog. water %	
	Wet Season	Dry Season
0	18	2.5
20 - 40	32	21
40 - 80	30	38

Q.4 & Q. 5

Mean time saved to draw water and back from water point compared to pre water point days.

DIFFERENCE IN TIME (BEFORE PROJECT - NOW) in Minutes

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
-240 - -120	1.00	4	1.7	1.7	1.7
-120 - -60	2.00	2	.8	.8	2.5
-60 - 0	3.00	43	18.2	18.2	20.8
0	4.00	37	15.7	15.7	36.4
0 - 30	5.00	59	25.0	25.0	61.4
30 - 60	6.00	29	12.3	12.3	73.7
60 - 120	7.00	41	17.4	17.4	91.1
120 - 180	8.00	14	5.9	5.9	97.0
180 +	9.00	7	3.0	3.0	100.0
	TOTAL	236	100.0	100.0	
Valid Cases	236	Missing Cases	0		

Q.6. Water use?

	Frequency %	
	Wet Season	Dry Season
Drinking	85.2	94.9
Household	77.5	93.6
Animals	10.6	24.6
Garden/Nursery	3.8	11.0

Q.7. How do you pay for water?

- a) Water is free households = 13.1 %
 b) Pay regular fee households = 80.5 %

Fee per month KShs. per month	Frequency %
0	14.4
0.1-2.0	20.8
2.0-4.0	13.1
4.0 - 6.0	27.5
6.0 - 8.0	0.4
8.0 - 10.0	18.6
10.0 - 15.0	2.1
15.0 - 20.0	1.7
20.0 +	1.3

- c) Pay per amount used households = 5.9 %

Price cts per litre	Frequency %
0.0	97.0
0.03	0.4
0.20	0.4
0.30	0.4
0.50	0.4
1.00	0.8
10.00	0.4

Q.8. What effect has programme had on your family?

	Frequency %		Frequency %
a. wash more often	64	g. cleaner water	90
b. cleaner house	50	h. water tastes better	63
c. grows vegetables	8	i. water is closer	74
d. feeds animals	16	j. water is quicker to draw	
e. healthier	87	k. no effect has been noticed	
f. cleaner water	90	l. dont know	0.0

Q.9. What problems has programme had since it started?

	Frequency %		Frequency %
a. committee not functioning	7.6	i. no one to repair	1.3
b. political problems	3.0	j. water system breaks often	3.0
c. water wastage	0.0	k. repairs delayed	1.0
d. limited hours of service	10.2	l. dont know	9.0
e. pump attendant absent	8.1	m. water is expensive	2.0
f. no problems have occurred	39	n. rates are high	1.0
g. not enough water	18.2	o. embezzlement	1.0
h. no spare parts	0	p. no bank account	5.0

Q.10. Do you think the community should take responsibility for the waterpoint?

Yes 93.2 %
No 5.5 %

How?

Some common response - 'Arrange a fund raising for water point maintance.'

Q. 11. Have you experienced enough improvement in quality of life improvement to make you agree to pay more for necessary future maintenance?

Yes 91.1 %
No 6.4 %

Q.12. Are you happy with current water service?

Yes 91.5 %
No 8.5 %

If no explain ...

some common response

'There is limited water service time'.

Q.13. Do you think price of water is right?

Yes 89.0 %
No 8.1 %

Q.14. a) Would you pay a little more to ensure service and maintenance?

Yes 86.4 %
No 11.4 %

b) How much more per month?

Shs.	Frequency %
0	47.0
1	16.9
2	10.2
3	2.5
4	1.3
5	11.0
7	0.8
10	3.4
12	1.3
15	3.4
20	1.3
30	0.4
50	0.4
TOTAL	100.0

Q.15.

From where do you get cash for water fee?

- A own savings
- B farm income
- C salary/wages
- D remittance (relatives)

		Frequency %
Own Savings	A	10.6
Own savings, farm income	AB	2.1
Farm income	B	53.4
Farm income, salary/wages	BC	3.0
Farm income, salary, remittance	BCD	.8
Farm income, remittance	BD	2.1
Salary/wages	C	4.7
Salary/wages, remittance	CD	.8
Remittance	D	19.1
No answer	NA	3.4
TOTAL		100.0

Q.16. What other method of payment would be easier for you?

- A labour
- B materials
- C produce
- D other

		Frequency %
Labour	A	53.8
Labour and materials	AB	2.1
Materials	B	7.2
Materials and produce	BD	.4
Produce	C	20.3
Other	D	8.1
No answer	NA	8.1

	TOTAL	100.0

Q.17. Has any adult member received health and sanitation training from programme officers?

Yes 20.8 %
No 78.8 %

Q.18 Has any child suffered serious stomach illness in the last 6 months?

Yes 21.6 %
No 76.7 %

Q.19. Has any child died of same in last 12 months?

Yes 9.7 %
No 87.1 %

Q.20. Are adult stomach illnesses less or more common now than before the water point?

less 91.1 %
more 5.9 %
same 3.0 %

Q.21. Have you (or any adult member of house hold been to Committee or RDWSSP Barazas, courses in the last 6months?

Yes	22.4 %
No	77.1 %

Last 12 months

Yes	26.3 %
N	59.7 %

Q.22. How is the water Committee performing duties?

Very well	4.2 %
well	69.5 %
poor	13.5 %

Q.23. Would you contribute money, labour or material to repair or expand the water point in the future?

Yes	92.4 %
No	2.5 %
Don't know	4.3 %

Q.24. Who runs or owns this water?

LBDA (RDWSSP)	18.6 %	Government	5.1 %
Committee	9.3 %	We members	63.1 %

Q.25. What do you suggest your community (and committee) should do for future self reliance (maintenance, expansion)?

Common responses 'Organising Harambees'

Q.26. What income generation activities are undertaken by members of this household based on water point?

None	%
List	

Q.27. How can committee improve services?

Common response 'Meeting frequently to discuss matters relating to the waterpoint'

Q.28. Would you still use water point if prices/fees were doubled to improve maintenance and water availability?

	%
Yes	84.7
No	8.5
Don't know	6.8

Q.29. Are you recruiting new members to help increase revenue?

Yes	50.8 %
No	40.7 %

OBSERVATIONS BY INTERVIEWERS

	Yes	No
Q.30. Special water container?	93.6	5.4
Q.31. Covered and protected?	85.2	14.4
Q.32. Drinking water boiled?	12.7	86.4
Q.33. Have a latrine?	41.9	57.6
Q.34. Latrine clean?	35.6	61.9

WATER POINT FUNCTION QUESTIONNAIRE

Sample Size (water points) 45

Q1. What Contribution did the community give towards the installation of the project?

Skilled labour	0
Unskilled labour	69
Materials	16
Casuals	42

Q2.	No. of members	originally	current
	0	20	15
	0-40	31	16
	40-80	24	24
	80-150	20	22
	150 +	4	22

No. of beneficiaries	originally	current
0	20	16
80 - 150	20	4
150 - 300	27	20
300 - 600	22	27
600 +	11	33

Q3. For how many months has the system been functional in last 6 months?

Months	Frequency
0.5	2.2
2	4.4
3	2.2
4	4.4
5	4.4
5.3	2.2
5.5	4.4
5.75	2.2
6	64.4
NA	8.9

TOTAL	100.0

Q4. Main reason why water system not functional.

Some common responses

'Committee not functional'
'Source is seasonal'

Q5. Cost to repair the system when it was last non-functional

Ksh.	Frequency %	
0	66.7	
20	2.2	
225	2.2	
260	2.2	
263	2.2	
300	4.4	
305	2.2	
310	2.2	
350	2.2	
360	2.2	
370	2.2	
420	4.4	
450	2.2	
2750	2.2	
	-----	-----
TOTAL	100.0	100.0

Q6. Status of committee books

A good	33.0
B fair	24.0
C poor	18.0
D non-existent	15.0
don't know	2.0
missing	7.0

Q7. Cost to maintain and operate, last 12 months?

Ksh.	Frequency %	
0	9.5	
0 - 100	4.8	
100 - 300	7.1	
300 - 500	4.8	
500 - 1000	21.4	
1000 +	21.4	
Don't know	31.0	

TOTAL	100.0	100.0

Q8. Cost to repair system last 12 months.

Ksh.	Frequency %
0	25.7
0 - 100	2.9
100 - 300	11.4
300 - 500	20.0
500 - 1000	5.7
1000 +	5.7
Don't know	28.6

TOTAL	100.0

Q9. Initial recruitment (membership) fee

Ksh.	Frequency %
0 - 10	42.2
10 - 20	22.2
20 - 30	8.9
30 - 50	13.3
50 - 200	11.1
200 +	2.2

TOTAL	100.0

Q10. How do members pay?

do not pay, its free	22 %
flat monthly rate	62 %

Ksh	Frequency %
1 - 4	55.6
4 - 10	42.2
10 +	2.2

TOTAL	100.0

Price per litre 0.01 cents = 4.4%

Q11. How do non-members pay?

Common response 'Non-members not allowed to draw water'

Q12. Physical appearance at service point

	Yes	No
Drainage good	87	11
Fecal cont.	4	96
Protection ag. contamin.	67	33
Separation from animals	56	44
Latrine present	9	82
Latrine clean	2	38
Latrine used	9	33
Taste of water good	89	11
Water clear	87	13

Q13. Dropped (No source areas surveyed)

Q14. What are the hours of service

All the time	18.0 %
Sometimes	82.0 %

Q15. What is the average difference in distance from village to the old water source and to the Program water source (X-Y)

Km	Frequency %
0.0	15.6
.20	2.2
.50	22.2
1.00	4.4
1.50	6.7
1.80	2.2
1.90	2.2
2.00	8.9
2.10	2.2
2.50	2.2
2.75	2.2
3.00	6.7
3.50	2.2
4.00	2.2
4.50	4.4
5.00	6.7
5.50	2.2
6.00	4.4
TOTAL	45 100.0 100.0

Q16. Number of committee members

0	8.9 %
1	1.0 %
4 - 10	28.8 %
10 - 16	60.0 %

Women

0	11.0 %
0 - 3	31.0 %
3 - 6	33.0 %
6 +	24.0 %

Q17. Do women participate in the following aspects of the water project?

Common responses

- Construction
- Recruitment of project members
- Maintenance of the site

Q18. How many people on the water committee (or from the community) have received formal or informal RDWSSP training?

Maintenance and operation

0	17.8 %
1	77.8 %
2	2.2 %
3	2.2 %

Finance (bookkeeping)

None

Health and Sanitation

0	55.6 %
1	15.6 %
2	8.9 %
3	4.4 %
4	4.4 %
5 +	11.0 %

Q19. What effect has the Water Point had on the community since it began?

	Frequency %		Frequency %
a. wash more often	80	h. cleaner water	62
b. cleaner house	64	i. water tastes better	69
c. grows vegetables	33	j. water is closer	78
d. feeds animals	22	k. water is quicker to draw	80
e. nursery	20	l. no effect has been noticed	
f. healthier	91	m. dont know	2
g. cleaner water	91		

Q20. What problems has project had since it started?

	Frequency %		Frequency %
a. committee not functioning	24	i. system breaks often	0
b. political problems	9	j. repairs delayed	4
c. water wastage	4	k. water is expensive	4
d. limited hours of service	4	l. rates are high	0
e. pump attendant absent	7	m. embezzlement	0
f. not enough water	22	n. no bank account	7
g. no spare parts	0	o. repair expensive	0
h. no one to repair	2	p. maintance high	0
		q. no problems have occurred	38
		r. don't know	2

General recommendations by committee

'The committee should be active and have more meetings to discuss problem involving the water project'.

Q21. Are non members allowed to use the project water?

Yes	64 %
No	31 %
NA	4 %

Q22. Price to non-members? 0.1 - 0.3 cents/litre.

Q23. General description of the utilization of the system.

Some common examples

'All are allowed to use the water so long as they pay'

'Water point has reduced the distance for water, so water point is valued'.

Q24. How is the project water used in ...?

Frequency %

	Wet Season	Dry Season
Drinking	93	97
Household	91	98
Animals	16	29
Garden/nursery	16	31

Q25. Are you recruiting new members?

Yes	62 %
No	24 %
NA	13 %

OBSERVATIONS BY INTERVIEWERS

Q26. The water system is functioning technically as designed.

Yes	87 %
No	11 %
NA	2 %

If no explain...

Some common responses

'Water is muddy in wet season'
'Corrupt leaders'
'Reduced membership'

Q27. The management system of the water project is functioning well?

Yes	64 %
No	36 %

Q28. Example of some recommendations

'Fence and clean water point area'
'Committee should get more organised'
'Increase membership fee and keep a good accounts record'.

Q29. What is the committee's general attitude towards the programme?

A Very positive	11 %
B Positive	56 %
C Indifferent	29 %
D Negative	0 %
E Very Negative	0 %
Missing	4 %

Explain, some examples

'Should meet regularly to discuss problems'

Q30. How many committee members were present at this survey?

0	9 %
1	29 %
2	38 %
3	9 %
4	7 %
4 +	9 %

