

**STRENGTHENING CAPACITY OF WATER UTILITIES TO
PROVIDE WATER SUPPLY AND SANITATION SERVICES,
ENVIRONMENTAL AND HYGIENE EDUCATION IN A
SUSTAINABLE WAY TO LOW INCOME URBAN AREAS.**

CASE STUDY OF LUSAKA WATER AND SEWERAGE COMPANY

Practice Number 4

Payment Systems for low income urban communities

A: Monthly payment card system

B: Daily pre-payment systems

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A: MONTHLY CARD SYSTEM PAYMENT

BACKGROUND

Context

Chipata compound is a peri-urban area of Lusaka typical of the high density low income communities which house 60% of the city population. A participatory needs appraisal and needs assessment of the Chipata compound residents carried out in 1995 revealed improvements to the water system as top priority. The system relies on groundwater abstraction for its water supply and consists of a borehole to the north of the compound supplying water to ground and overhead tanks reticulating to 39 communal taps. The capital equipment was installed at a cost of US\$600,000 in 1996. The level of service was designed to allow each resident to increase water consumption initially to 25 litres per day and later to 35 litres. The project was funded by an NGO, Care International, in collaboration with the Lusaka City Council, the Lusaka Water and Sewerage Company and the residents. There are about 6325 households in the Chipata compound which is divided into 39 zones. Each Zone has a Zone Development Committee and together they elect the Residents Development Committee which acts as the representative of the Chipata compound community in discussions with the LCC, LWSC and other agencies. (reference practice No...)

The system is managed on a self sustaining basis. Tariffs were set to recover costs of O&M and

What is the practice

The practice describes the monthly card payment system used in Chipata compound for the collection and management of water charges. This includes collection of revenue, expenditure and savings. The system is common to several compounds where water systems are owned and managed by the community.

What is the purpose

The purpose of the practice is to implement a cost recovery programme for water supply which enables the community to pay hiring costs, wages, maintain the water service and invest in replacement and expansion of the system. The design of the system aims to payments by consumers, minimise misuse, efficiently collect revenue, ensure effective maintenance and create employment.

Who initiated it

The system is similar to one being implemented in Kamanga Compound. Both were initiated by NGOs working with the community and bringing together the LCC and LWSC to advise and assist in implementation. It was the residents of Chipata compound through focus group discussions conducted by CARE who decided on the actual payment system. The implementation of the practice is part of a long process from the design of the project, its implementation and then the move toward fully sustainable operations.

Who manages it

The water supply system is managed entirely by the community through their elected representatives, the Resident Development Committee (RDC). The process of election of the RDC is described in practice No ____ The democratic and representative nature of the RDC has been inspiring community confidence in the management system. The RDC operates at Compound level but there are also management tasks assumed at lower levels. The ZDC supervise taps operation and the tap attendants, and report problems to the RDC if they cannot be immediately solved. The RDC has employed no staff to manage the system.

Roles and Responsibilities of the community structures

- ZDC** : • Grassroots connection with residents - primary point for encouraging participation.
• Primary point of accountability of RDC structure to residents.
• Co-ordinate implementation of water project at zone level.
• Carry out appraisals and consult with zone residents to come up with future zone-level projects.
• Gather ideas with zone residents to take to the Forum of Zone Representatives for compound level projects.
- FZR** : • Make compound policy decisions.
• Receive reports from RDC and review progress of compound-wide projects, give feedback.
• Periodically hold meetings that are open to other residents who are not members of RDCs from other CBO's such as churches, associations, etc.
• Compound-wide meeting of representatives to bring ideas from the grassroots, to discuss and plan on major projects to undertake in the future.
- RDC** : • Co-ordinating major compound projects on a day-to-day, week-to-week basis, and reporting to ZDC's in taking on development roles.
• Reporting to the Forum of Zone Representatives.
• Representing the compound with outside agencies.

Who uses it - consumer/beneficiary

The system is used by the increasing membership of households in the community for managing their water supply, effecting payments and controlling water usage. It is also a recognised management system by the LWSC who use it as one mechanism of delivering and managing water supplies to the low income high density communities of Lusaka.

How long has it been operating

The payment system has been operating for almost 2 years in Chipata compound.

A similar system is also being used in George and Kamanga Compounds in Lusaka. It has also been introduced in communities in Mazabuka and Northern Province where there are new water supply schemes under community management.

PROCESS APPROACH

What are the tool and methods used

In operating the payment system the RDC use a combination of normal accounting procedures, bank accounts and receipts. The user is issued with a payment card allowing the family to draw water from the communal tap (*SAMPLE CARD NEEDED*) as often as necessary.

How is it implemented?

The payment system was established by the RDC over a period of about six months to establish. The RDC carried out interviews and employed 46 paid workers as tap attendants, two cashiers and a senior accountant/administrator.

Tap management

The tap attendants:
Open and close the water point at specified times;
look after the water point;
check the payment card of those coming to collect water;
stamp the card for each 20l collected.

The user cards facilitate the drawing of up to seven-20 litre buckets of water per household per day. (Each cardholder or family is entitled to 140 litres of water daily.) The card is presented each time water is drawn and the tap attendant stamps the card. In a survey carried out by CARE the community came up with needs of 210 litres per household (includes tenants) per day but the borehole capacity could only cater 140 litres per day.

There is no provision for payment in kind by those people that cannot raise the membership fee and user fees. These people are left to either continue drawing water from unprotected sources or from neighbours or from outside the compound where there is still some areas getting free water from LWSC. The elderly people are however allowed to clean the area surrounding taps in exchange for water.

Financial management

Two bank accounts have been opened by the RDC. One account is for capital replacement and the other for operating costs. The signatories are the RDC Chairman, The RDC Treasurer and a LCC representative. Consumers pay the water charges at a central office in Chipata compound manned by cashiers and the senior accountant. Charges go toward capital replacement, or investment funds for future development, and operations and maintenance which includes electricity, chemicals and salaries for the employed staff. At the end of every month the cash book is reconciled with the bank statements before a financial report is prepared.

Revenue collected for annual replacement cost is deposited in the capital replacement account. Revenue for operating costs in the operating account:

55% of revenue collected meets the wage bill
40% meets operating costs (electricity, stationary etc.), and
5% is deposited into the investment fund for future development

USER PAYMENTS	
Annual replacement cost	
Total = K 9000	
Payment either:	
- K 9 000 at the beginning of the year, or	
- K 3 000 at the beginning of the year and	
K 500	
instalments for 12 months	
User fees	
K 2 500 per month.	
If you do not pay, then for that month you do not collect water.	

Simple daily checks and other control measures have been instituted in the accounting system, such as use of membership fee to offset costs of water collected but not paid for.

Controls within the accounting system provided to avoid malpractice include:

- ∞ At the end of each business day the revenue collected is given to the banking clerk who issues a general receipt to show that money has changed hands.
- ∞ Tap attendants are not allowed to collect any cash and Zone leaders monitor them.
- ∞ Resident Development Committee members carry out random inspections of taps for any malpractice by the attendants and report any such cases to the Senior Accountant.
- ∞ Tap attendants are regularly moved from tap to tap. No one attendant remains at any one tap for more than two months.
- ∞ The Senior Accountant, who also acts as the administrator, prepares bank reconciliation statements.
- ∞ The community through their zone representatives at the Forum agree upon the tariff.
- ∞ The RDC has an independent signatory to the account from the Lusaka City Council.

HOW OFTEN ARE FINANCIAL REPORTS PRODUCED AND TO WHOM?

Why was it set up this way

The RDC and NGO developed the payment system to meet the needs of the community. The options of handing over the system to the LWSC for operation and maintenance was rejected as the community felt it was able to manage the system on their own and call in assistance from the LWSC when needed. The involvement of the LCC as an independent advisor, auditor and signatory was important as a means of providing the necessary oversight to assure people that the risk of mismanagement is minimal.

ANALYSIS

Service provider -RDC

Success.

From the perspective of the RDC as the service provider and elected community leadership, the water supply system is judged successful. The number of households subscribing has been steadily rising from 16.5% to 61% over the course of the last year and the cash reserves likewise rising from K4.5m to K14m over the same period.

Table Water supply system of Chipata Compound. Subscribers, income generated from user fees and water consumed.

Month	Members (Households)	Gross Revenue (Kwacha)	Salaries (Kwacha)	Sundries and others (Kwacha)	Net Income/Loss (C-E) (Kwacha)	Cumulative Cash at Bank (Kwacha)	Water Consumed Per Month (m ³)
July 1997	1,041	2,427,000	1,405,262	145,630	876,108	4,469,373	7,449
Aug 1997	1,709	4,804,000	1,630,302	143,850	3,029,848	7,499,221	10,603
Sept 1997	2,707	7,569,500	2,790,390	396,750	4,382,360	11,881,581	15,278
Oct 1997	2,379	4,800,000	2,760,120	1,277,940	761,940	12,643,521	12,663
Nov 1997	2,622	4,816,000	2,771,920	4,91,100	1,552,980	14,196,501	16,556
Dec 1997	3,110	5,280,000	2,698,800	1,906,169	680,030	14,877,031	16,808
Jan 1998	2,671	4,557,000	2,721,000	4,664,425	2,825,425	12,051,606	12,054
Feb 1998	2,289	3,826,000	2,613,480	823,850	388,940	12,434,046	16,418
Mar 1998	3,182	5,204,000	2,609,620	855,620	1,738,760	14,177,306	16,560

The compound has a total of 6,325 households and by March 1998 61% of these were contributing to the water charges and accessing water from the water system. It is noticeable that the water consumption has not increased in direct proportion to the increase in number of subscribers. This is most likely because some of the subscribers had been able to get water from the system without paying in the past. The management of the payment system is therefore becoming more efficient and reducing the amount of water illegally taken from the water supply.

The build up of capital is important to cushion the community against occasional high costs of repair, especially as the system begins to age.

NEED FIGURES ON THE AMOUNT CURRENTLY IN EACH ACCOUNT – CAPITAL AND O&M.

Chipata compound has not experienced any problems of mismanagement or political interference at the RDC level as yet. Other compounds in Lusaka have had to overcome serious problems occasioned by political interference. Kamanga Compound had to replace its treasurers and RDC members due to misappropriation of funds. This has had a negative effect on community confidence in the RDC as a management institution and could lead to the collapse of the management of the water system. It is to be expected that the risk of this will decrease over time as more experience is gained. In addition, several safeguards in place, described above, assist in minimising the risk of mismanagement.

The success of the scheme can also be seen in continued and reliable water supply which has not seen any breakdown as yet. The RDC and ZDCs are elected by the community to serve their interests and the successful management of the water system is a credit to the committee representatives. Problems with interruption of supply have come from power cuts which in some cases can last as long as two days.

Replicability

The system described is being used, with slight variations in other towns and compounds. Where a compound is drawing water from a utility rather than its own source like Chipata compound, then the RDC pays a proportion of the money collected to the Utility. An alternative system used by the LWSC and some towns is to put vendors in place. Here the vendor pays the utility for the bulk water consumed and charges the consumers per bucket at an agreed price. This latter system does not rely on an RDC or community organised structure and may be appropriate where there is no RDC or the communities are fractured. The RDC may also wish to establish vendors to replace tap operators.

Sustainability

The system would appear to be sustainable provided the present trends continue. The healthy and increasing bank balance both for operation and maintenance as well as for capital development show that the community will be able to replace, repair and even extend the system should they need to do so. It is a sign of strength in the system that the community were able to agree on an increase in the fee in early 1998 from K1,500 per month to K2,500 and this is not reported to have had any effect on the number of households subscribing. The LWSC maintain contact with Chipata compound, Care and LCC through its Peri-Urban Unit. For LWSC Chipata compound is an example of a community managed system which is successful. It is one of the systems approved by the LWSC in their Peri-Urban Policy and results in communities accessing services without placing more pressure on the LWSC which is still trying to recover costs from many other parts of the city.

Consumer

The success of the project from the consumers perspective can be seen in the increasing numbers becoming members of the system and paying for water. The residents appreciate that the scheme is theirs and they do not want to go back to the days where they had to buy water from street vendors at higher prices. Before the water supply project, water from street vendors or from unprotected wells was K50 for 20 l. This means that each family was paying around K350 per day or K 10,500 per month for the same amount of water that they now get for K2,500. In a survey carried out by CARE the community came up with needs of 210 litres per family per day but the borehole capacity could only cater for 140 litres per day. There appears to be a plentiful supply of water for the present needs as records show a leveling out in the

usage over the last year.

The community have reported tap attendants selling water to non members and relatives at tap points. This clearly presents a problem of unauthorised access and affects monthly payments. The community felt that the ZDC and RDC members should be more active in monitoring tap points to ensure that water is only supplied to those who have paid. On the other hand the presence of the tap attendants has been seen to minimise vandalism at water points.

Beneficiaries prefer the easy access they have to the Chipata compound RDC office for making payments. In other compounds payments are made at LWSC offices The community note that the system is transparent and also expect that the profits will be ploughed back into their own community.

A less obvious but probably very important success is the employment of 46 people from the community on full time posts and the employment of others such as plumbers as the need arises. This recycles money back into the community creating wealth and reducing poverty.

The service is considered accessible and reliable. Water is available at 39 points in the compound at fixed hours. There are a number of people in the community who cannot afford to meet the monthly contributions and would prefer if the payment was broken down to weekly installments. However the majority of residents feel that this would complicate the accounting system and prefer the monthly payment system. There have been complaints that the repair of taps can take a long time.

Sustainability

The sense of in the community contributes to their effort to ensure that the system is sustainable. The system is considered reliable and transparent. People employed on the project want to ensure that their jobs are secure and the only way is to ensure continuity of the water supply project is by maintaining a good payment practice. LWSC's continued providing free water through outlets at one end of Chipata compound is a risk to Sustainability of the system. The community would like to see the LWSC begin to charge for this water or close it down. This shows the commitment of the community to keeping their own system working.

OUTSTANDING ISSUES

External conditions which may affect the Chipata compound water supply relate to the new Water Supply and Sanitation Act (see practice No 1). There are concerns in the community that the LCC may try to assume control of the assets, and include the Chipata compound system in the contract for the utility contracted to provide water to Lusaka Municipality.

Under the new act the Chipata compound RDC would be considered an independent service provider registered by the National Water and Sanitation Committee (NAWASCO). What this means for the RDC is not yet clear.

The RDC is the manager of the water service and recruits staff for the operation and maintenance of the systems. The commitment of unpaid staff (volunteers) is not always reliable and eventually the RDC will have to make the transition to full management responsibility in the hands of paid employees. In the meantime the RDC must be careful how much responsibility it takes on for day to day tasks as this may be a risk to effective management of the system.

The support from external agencies such as Care, LCC and LWSC - advice and facilitation - was a key factor in development of the system. Following completion of the system these external inputs have been reduced to a minimum with liaison officer's from Care and LWSC visiting the Compound occasionally. The LCC have a regular staff member involved in day to day affairs. This is expected to continue indefinitely. The transition to complete control by the RDC is almost complete and it is unlikely that there will be any serious capacity deficits as a result of the eventual full withdrawal of support agencies. The important point is that advice and expertise will continue to be available when necessary from LCC and LWSC although some of the technical assistance may need to be paid for.

LESSONS LEARNED/ CONCLUSIONS

1. An organised community can run a self sustaining project on their own provided they have a system of democratic and representative leadership and the system is run in an autonomous and transparent manner. Training and capacity building are key inputs required from support agencies.
2. Clear and accountable financial management is essential for community confidence and willingness to pay for community managed water services. Residents are willing and able to pay a full cost recovery rate for water if the system is reliable and efficient.
3. Community managed water systems can generate employment opportunities and provide other financial benefits from the circulation of revenue into the community.
4. Whilst there are a variety of options for the recovery of costs for water services, community management provides an attractive alternative to utility management where utilities are struggling to meet service needs.

B: WATER KIOSKS

BACKGROUND

Mchini Compound is an informal area of Chipata compound town and falls under the Chipata compound Water and Sewerage Company (CWSC), a company formed under similar circumstances to Lusaka Water and Sewerage Company. Mchini had a population of 8,920 in 1993 and water supply was provided “free of charge” through 4 standpipes. Generally the collection of water was very disorganised and fights between consumers were a common sight. The small number of collection points and high competition caused many people to turn to hand dug wells and streams as an alternative water source. CWSC later introduced a payment per month for all households. The revenue collectors were recruited by the community leaders and the Ward chairmen. This resulted in political problems for CWSC when the ward chairmen belong to opposition parties and the system had to be abandoned. Similar problems arose with other community based systems that CWSC tried to introduce.

A survey carried out by CWSC in 1993 showed that 93% of Mchini residents were prepared to pay for water. Based on these results the CWSC embarked on a study to find a payment system which would overcome previous problems and be flexible enough to cater both for those people who could pay a monthly fee and those who preferred payment by the bucket.

What is the practice?

The practice is the payment system used in Mchini Compound of Chipata compound Town for the collection of water charges. The system is based privately managed on water kiosks from which the community purchases a given volume of water using prepaid tokens.

What is the purpose?

The purpose of this payment system is to insure cost recovery for water supply thereby enabling CWSC to operate in a commercially viable manner. CWSC started by piloting the system with the objective of:

- ∞ improving the commercial operations (fee collection efficiency) of the CWSC;
- ∞ investigating the means and measures to increase community/ consumer participation in the collection of water charges at existing and future public and communal taps; and
- ∞ involving the local population in the design and implementation of water supply system.

Who initiated it?

The system was initiated by the CWSC in collaboration with KfW on the basis of past experience and persistent problems encountered.

Who manages it?

Alternative organisational concepts were developed, discussed and tested by CWSC CMC and community members in the compound before the kiosk system was eventually adopted. KfW played a key facilitative role in piloting the new systems and engaging in the community discussions alongside the Community Relations Officer of the CWSC. The kiosks are run by independent operators licensed by CWSC and revenue collected remitted to CWSC. Kiosks are owned by CWSC.

How long has it been operating?

The token based kiosk system has been in operation for 4 years in Mchini. It has also been introduced to all low income areas of Chipata compound Town since 1996 and now serves over 50% of the population of the town.

PROCESS AND APPROACH

What are the tools and methods used?

Given very strong political tensions in Mchini and an avowed attempt by one political group to stop the kiosk system, the consultative process was very carefully conducted. The role of KfW as consultants was valuable in this regard as they provided an impartial examination of existing systems and why they were failing. Rather than hold large community meetings, which could be exploited by politicians, smaller consultations were held throughout the community.

A publicity campaign was launched a week before the introduction of the kiosk system. Elements of the publicity campaign included:

- ∞ posters explaining the system;
- ∞ megaphone announcements from the CWSC Customer Relations Officer;
- ∞ community visits to the water works; and
- ∞ group discussions.

How is it implemented?

The attendants at Kiosks are contracted by LWSC and provided with a Kiosk Attendant Duty List to guide their operations. One week before the start of their contract the kiosk attendants receive training. The training was based on the Kiosk Attendant Duty List. The kiosk attendants, are expected to ensure that - service to customers is at a high level; tap sites are well maintained and kept clean; vandalism is at a minimum and damage is reported quickly; wastage is kept at a minimum. Two attendants are assigned to each tap and women are preferred as traditionally women fetch water and clean the surroundings of the house and water sources. Environmental Health and Hygiene are important features of tap management and responsibility of the attendants. Whilst employing attendants from within the compound has obvious logistical advantages it was found preferable that they not be from the immediate community using the tap due to jealousies, favoritism and other factors.

It was decided that the attendants would not pay the water bill and sell water at a commission. The reason for this is that two taps were much busier than others due to their location and this would introduce a large differential income between attendants. It was therefore decided to pay the attendants a basic salary. (see comments in section x). The attendants are therefore employees/agents of CWSC and sell water tokens to the community. To reduce the likelihood of attendants giving water free of charge to

friends and relatives, they receive a small sum from the sale of the tokens. The Public Relations Officer of the CWSC spends 8 days per month monitoring/supervising the attendants.

Each of the five water points was rehabilitated before the kiosk scheme started. All the taps were repaired, shelters built for the attendants and fences constructed. For the purpose of accountability water meters were installed at each kiosk and the meter is read at the beginning and end of each shift. The amount of water passed through the meter must correspond to the tokens collected or money at hand. The kiosk attendant recruits cash collected from sale of tokens to the CWSC on a weekly basis and is given a statement at the end of the month. The statement shows the actual consumption in cubic metres and the total sum paid during that period. Presently the tokens being used are plastic and can last for several years without replacement.

Although this system appeared to work its main weakness was that corruption by the attendants could only be detected several weeks after it occurred. It was therefore decided to pilot a semi-franchising system where the attendants paid for water billed before receiving their salary. This places more responsibility in the hands of the attendants and is similar to the practice introduced by the Lusaka Water and Sewerage Company in some areas of Lusaka.

ANALYSIS

Service provider - CWSC

The water kiosk system has now been in operation for almost 4 years without any serious problems. Surveys carried out in the serviced areas indicate that consumers like kiosk system. Surveys in communities close to Mchini showed that other service areas within Chipata compound also wanted the kiosk tokens system in their community. Each kiosk established caters for a population of 2,000 meeting all social and hygienic objectives of the system. The level of 2,000 people was considered to be economic. Serving smaller populations would require only one attendant per kiosk and shorter opening hours.

An analysis of Mchini kiosks in 1995 showed that the amount of water piped into the compound reduced from over 4,000cum per month prior to implementation of the kiosk system to 2,000cum. The average per capita consumption is currently 7.51 litres per day. Concerns about whether there are vulnerable groups that do not have access to water because of the cost were investigated at an early stage of system implementation. Some people found that the taps were too far away and so only collect water for drinking and cooking with water for other activities collected from nearby wells and streams. There were a small number of disabled and destitute households and it was decided that these would be given a card to allow free access to a limited quantity of water. This has been done by Social Welfare repayment of C.M.C in conjunction with the CWSC. An interesting aspect of the kiosk service is that anyone is allowed to drink at the tap for free. Water is also provided for free for the purpose of clearing out the water container before collecting water.

During the first 6 months of operation the kiosks have made a profit for CWSC. Two of the 5 kiosks made a loss in one or two months of the year. (Recent data was not available). The utility has reacted to losses by reducing the number of attendants for the kiosks and restricting opening hours. Careful management of the kiosk system has shown that it ensures an adequate water supply to consumers; contributes to the viability of the CWSC; and reduces wastage.

The attendants are considered to be performing well and the monitoring system shows that more than 93% of water metered is sold. When compared to the pre-kiosk situation where water ran almost continuously irrespective of whether people were fetching water or not, this is a significant improvement. The Public Relations Officer of CWSC supervises the Attendants and spends 2-3 days per week monitoring 15 kiosks. The kiosk system has led to considerable improvements in hygiene around the taps which previously were surrounded by large pools of stagnant water. This is because of the role of the attendants in maintaining environmental health and hygiene and the shift of laundry activities from the tap to the household.

Consumer

Overall the consumers have reacted positively to the kiosk system. Problems sited include the long distances between kiosks and households, especially for the elderly.

Eighty percent of the households use the kiosks as the main source of water for drinking. Water for washing and bathing is also obtained from wells. The water supply system is considered to be in good condition and the water quality is good.

1. The three main advantages identified by consumers were the clean taps (63.9%), the organised system for collecting water (55.8%) and that everyone pays according to the quantity consumed (41.1%).
2. The three main disadvantages of the kiosk system identified by consumers were distance (29.9%), congestion (19.8%) and expense (17.3%).

The Sustainability of the system has been shown by its continuation and expansion in Chipata compound Town over the last 4 years.

OUTSTANDING ISSUES

More up to date information is needed as the quotations given here are from reports of 1994-1996.

LESSONS LEARNED/CONCLUSIONS

The kiosk system provides a good option in situations where communities are not well organised or there are deep divisions due to political or other reasons. Privatised kiosks can result in widely differing levels of income between kiosk attendants but on the other hand the employment of kiosk attendants by the utility may raise costs and create viability problems if not well managed and supervised. Utility managed water points, kiosks, will tend to reflect the minimum to reduce investment costs thus creating accessibility problems. Community managed taps are more likely to meet accessibility needs but may compromise on viability.

Annexures

Chipata compound Water and Sewerage Company, New rules and guidelines for Kiosk Attendants, August 1995.
Kiosk Lease Contract.