

**Sanitation and Wastewater: CARE – CULP’s Practical Experience***Mrs Precious N Nkole, Zambia*

“Adequate sanitation is a basic right and fundamental ingredient of human dignity” (WHO, 1996). It is an essential element in poverty eradication and improved health.

NDOLA DISTRICT IS 336 kilometers from Lusaka, the capital of Zambia. The City Council area covers 97,000 hectares, divided into the city centre, townships and peri-urban areas. The estimated population is 457,720 (December 2000). The District’s peri-urban settlements have an average maximum total population of 24,000 people (4,000 H/Hs).

In Ndola, poor sanitation negatively affects health status, education, trade and employment. In this way, poor sanitation is a drain on the national economy and slows Zambia’s poverty eradication and modernization process. The copperbelt Ndola peri-urban sanitation in the 1990s was very different from today, the District having experienced cholera outbreaks in the past ten years. Latrine coverage and use was, and is, quite poor in some settlements. Most households (90%) did not have pit latrines, and refuse collection and disposal was by dumping (CARE-CULP survey, 1998). Few households (10%) owned latrines with poorly constructed super structures which seldom considered the location in relation to shallow wells.

Water supply and quality

Water, apart from being in short supply in Ndola’s peri-urban areas, is of poor quality. This is attributed to the constant breakdown and vandalism of pipes and the increased population. The inadequate water supply and poor allocation of unprotected wells in relation to pit latrines affects the health of people, although health education messages on hygiene are clear.

Un-planned settlements

There are a number of unrecognized settlements in the District and more often these shanties lack proper sanitary facilities, are poorly planned and lack basic services. The history of Ndola cholera outbreaks from 1990 to February 2001, serves as a backup for the above statement (see Table 1).

Based on the existing information on sanitation and current surveys conducted by CARE–CULP in Ndola peri-urban areas, CARE-CULP in collaboration with key partners designed the Environmental Health program in an attempt to control diseases related to poor water and sanitation. This paper describes CARE-CULP’s own practical experience of the sanitation and wastewater program implemented in 6 peri-urban settlements of Ndola and Kalulushi Districts. These are: -

- Ndola: Mwaiseni Kanyala (Bunga), George, Mwenye, Kawama, Nkwazi; and
- Kalulushi: Chibote.

CARE-CULP

CARE-International in Zambia established the Copperbelt Urban Livelihood Project (CULP) in early 1997. The Netherlands’ government funds the project. The overall goal of CULP is to reduce urban poverty in copperbelt peri-urban areas, by assisting poor residents to attain more secure livelihoods. The project operates in selected peri-urban settlements with a total combined population of at least 100,000. To accomplish this goal, the project is structured around three major lines of action these are:

- LOA #1: Building representative community institutions / personal empowerment. Building the capacity of

Table 1. History of Ndola Cholera Outbreaks- 1990 - 2001

Outbreak	Dates	Duration	Total cumulative cases	Total deaths
1st	June 1990 – September 1991	14 months	2,875	117
2nd	7 November 1991 – 30 April 1993	18 months	1,846	76
3rd	16 October 1996 – 23 June 1997	8 months	885	32
4th	6 January – July 1999	6 months	2,073	46
5th	4 April – 11 June 2000	3 months	197	9
6th	13 November 2000 – 26 February 2001	2 months	68	

CBOs to plan, develop and maintain community infrastructure and social services through the establishment of formal relationships with local authorities and other relevant service providing institutions.

- LOA #2: Community managed infrastructure and environmental health development/improvement. This LOA works in partnership with CBOs and local authorities to establish and maintain community infrastructure and social services, as well as an environment conducive to good health and well being of all community members, in accordance with community needs and priorities.
- LOA #3(A & B): Livelihood improvement & micro-finance. Aiming to enable households to improve livelihood security through attainment of increased income levels and food security.

CARE-CULP’s approach towards the above programmes is mainly that of working through CBOs and collaborating partners, by promoting and supporting community initiatives.

Sanitation and Wastewater

Since 1998, CULP’S Environmental Health component has been operating in 6 peri-urban areas where sanitation and water issues had been identified as a priority.

Interventions

- Collection of baseline surveys and specific environmental health situation analysis;
- Presentation of findings to communities and identification of high risk practices and planning a program;
- Establishment/strengthening of locally based institutions;
- Health / hygiene education & promotion: Arising from the knowledge gaps on causes and transmission paths for water borne diseases, identified during the environmental health situation analysis conducted by CARE-CULP in 1998, the health education program was designed to provide/promote information on positive behavior practices for improved health. This programme focused mainly on women, as they are prone to high-risk behavioral practices, have the responsibility for preparation of food, minding small children and looking after the sick. It was out of such meetings and gathering that a number of environmental issues emerged:- construction of improved toilets, upgrading of existing pit-latrines, water quality and management and maintenance of pit latrines; and
- Demonstration component of sanitation technology: 33 standard VIP latrines were constructed for demonstration, whose purpose was to offer communities different sanitation options alongside those existing. However, the program could not be continued or be replicated due to the following:
 - Low household income levels;

- Misunderstandings during demonstration. Most community members did not understand the purpose of the demonstrations;
- There was no proven demand for construction of VIP latrines by households, except for identified households where VIP latrines were to be demonstrated;
- The project relied very much on settlement CBOs to disseminate information to community members; and
- The selection criteria where demonstration VIP latrines were to be constructed was done with a few CBOs and not with community members.

Having constructed these VIPs, which were never adopted, CARE-CULP together with the community developed a low cost sanitation loan scheme. (SanPlat loan strategy) to be managed by WASHE committees in liaison with RDCs. The intention of establishing the sanitation loan strategy was to enhance community capability to adopt more affordable, sustainable, cost efficient and effective sanitation technologies, as opposed to the VIP latrines, which although the best option to maximize health benefits, were expensive.

Approach/activities for a sanitation loan scheme

- Presentation of sanitation options to community using visual materials;
- Formation of sanitation groups, with 5 members per group;
- Development and signing of loan agreement forms between CARE-CULP and WASHE, WASHE committee and loan groups;
- Provision of training to WASHE and WASHE group leaders in management of loan funds/tracking;

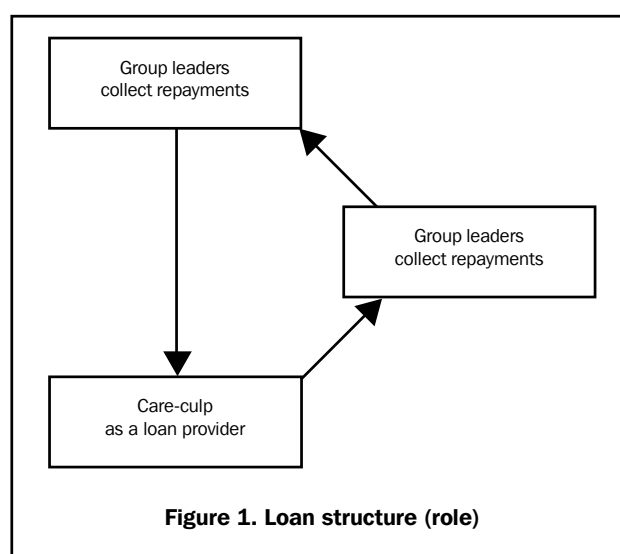


Figure 1. Loan structure (role)

Table 2. Actual cost of materials

Materials	Qty	Unit	Unity price (\$)	Unity price (K)
Cement	1	PKT	5.74	K17,800
Crushed Stones	1	Tonne	10.64	K33,000
Y12 round bars	6m	PCs	5.80	K18,000
Tying wire	1	kg	0.97	K3,000

Exchange rate K3,100 = US\$1 (17th April 2001)

- Development of simple forms to track expenditure and progress, checks and balances for group loans/repayments;
- CARE-CULP purchases the necessary building materials and disburses to WASHE committees;
- Responsibility sharing among WASHE members and CARE -CULP; and
- Motivating community members to buy SanPlats by WASHE members buying first.

Actual cost of 1 SanPlat

Cement at US\$ 1.15

Cement for screeding at US\$2.87

3m round bar at US\$2.90

0.0012 tonnes of crushed stones for casting and screening at US\$ 0.03

¼ kg of tying wire at US\$0.24

Total = US\$7.19

Inflation rate for six months 6.6% = US\$0.47

Total = US\$7.66

WASHE management 29% of US\$7.66 (K23,746)= US\$2.22

Total cost of 1 SanPlat + inflation + WASHE management fee = US\$9.88

Impact on the target participants as a result of CARE-CULP'S intervention

- High adoption rate of the SanPlat loan scheme (for improved sanitation);
- Women are actively participating in other livelihood programs:- e.g. savings and agriculture, as they are no longer spend more time looking after sick people;
- Women's capability to identify other health programs other than water and sanitation;
- Vivid reduction in indiscriminate/open defecation (90% of H/Hs free from excreta);
- Improved knowledge, attitude, and practices (latrine coverage and use); and
- Reduction/elimination of water related diseases in areas where CARE-CULP is in operation (cholera case

distribution per area for the years 1998, 1999, 2000 & 2001)

Recommendation

- Programs should not start with technologies, without proven demand, but with messages;
- Views from community members at large should be sought on situations for demonstration and not relying on local committees (from experience of VIP demonstration)
- The primary health care system, with its emphasis on preventive measures, is ideally suited to play a lead role in sanitation.
- Government's sanitation policy should be fully discussed with political representatives for its acceptance and understanding.
- Focusing on a few (one or two) feasible practices that can break the chain of infection would make any environmental sanitation program succeed.

Ideas for replication/personal experience

Community-based project management

- Start by identifying what interest groups/structure are already there (understanding dynamics);
- Identify essential threats, "hot issues", "red-flag" items for the program;
- The quicker the process, the quicker the collapse; and
- Start small.

Gender and youth

- Promote/encourage communities to put forward women to train as builders, but do not force the issue too fast, if it may be controversial.

Promotion, health education and training – promoting a demand for sanitation

- Tailor the project to the level of demand;
- Continue if there is no response;
- Work with local structures;
- Incorporate the full range of people's desires (e.g. status and convenience); and

- Assess demand at appraisal with community not committee.

Sources of information

CARE-CULP (KAP) Surveys, 1997 and 1999.

Ndola DHMT Cholera Outbreak Reports, 1990 to February 2001.

CSO Reports, 1996 & 1997.

Public Health Department Reports.

Abbreviations and acronyms used

CULP	Copperbelt Urban Livelihood Project
CBO	Community Based Organization
H/H	Household
LOA	Line of Action
QTY	Quantity
VIP	Ventilated Improved Pit
WASHE	Water Sanitation and Health Education.

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