CHAPTER 3 ANALYSIS OF PARTICIPATORY DEVELOPMENT PROJECTS IN UNPLANNED URBAN SETTLEMENTS

3.1 Concept of Community Participation

The concept of community participation has been accepted by both the Central Government and the local authorities in Zambia as an important strategic element in projects to improve living conditions for most low-income groups.

There are a number of reasons, which prompted community participation in projects with low-income residents.

(1) The opportunity for people to participate in projects that affect their lives is held to be a basic human right and a fundamental principle of democracy.
(2) Participation increases the sustainability of projects because if people are actively involved in the creation of their neighborhood they have a sense of commitment to the goals of the project and a willingness to be involved in follow up action.
(3) Participation stimulates self-reliance because if people are encouraged to participate in settlement improvement projects or any other developmental projects of low income groups, they are likely to participate in their communal activities and they will become more confident about solving their own problems and less dependent on outside agencies.

The Ministry of Community Development and Social Services (MOCDSS), although their program focus is mainly in the rural areas, assists the peri-urban areas where it shares responsibilities with the local authorities and municipal councils. MOCDSS, in its policy document, states that the principal goal of community development is stimulating and enhancing community participation in organization, planning, implementation and management of programs aimed at alleviating poverty, reducing illiteracy and equipping communities with knowledge and skills necessary to improve the quality of life. Some of the strategies pursued by MOCDSS are:

(1) Organizing and involving the communities in planning and implementation of their local development programs
(2) Empowering the women's development groups through entrepreneurship and leadership skills training in income generating activities
(3) Collaborating with other NGO in promoting development and delivery of services

The National Housing Policy of 1996 supports settlement upgrading programs which adopt self-help and community participation approaches in the provision and maintenance of infrastructure. It also encourages the organization of residents to articulate their shelter needs. The Zambian Water Supply and Sanitation Bill of 1996 also defines community participation as "the participation of the community in the formulation, long-term management, construction, operation, and maintenance of a project for water supply and sanitation facilities used to serve them."

Lusaka City Council (LCC), a lead agency for upgrading unplanned urban settlements in Lusaka, is no exception in supporting the concept of community participation. LCC promotes organization of Resident Development Committee (RDC) in a settlement as a democratic structure for facilitating development in the area.

3.2 Experiences of Donors and NGOs in Upgrading Unplanned Urban Settlements

There are a number of donors and NGOs working for upgrading of unplanned urban settlements. Most prominent of these are: World Bank, GTZ, Irish Aid, HABITAT, CARE, World Vision, HUZA, PUSH/WFP, among others. Having long attempted rigorous endeavors to involve local communities in urban upgrading programs, these agencies have valuable experiences and lessons for those who pursue a similar path.

3.2.1 Upgrading Unplanned Urban Settlements

World Bank

The World Bank supported Lusaka Upgrading Scheme during 1974~80 to upgrade most of the major squatter settlements of Lusaka. The major components of the Scheme were physical improvement of the settlements, development of plots, distribution of material loans to families, installation of needed infrastructure, and provision of basic community services.

The Scheme, however, could not demonstrate much in terms of sustainability. The Scheme was mostly planned by expert engineers and implementation done by contractors. There was little involvement of the community during the planning and implementation period. As a result, the community did not have a sense of ownership of the infrastructure developed under the Scheme. Today in these

settlements, there is no trace of upgrading, as the community did not maintain the infrastructure.

Three key lessons can be drawn.

(1) Pricing, cost recovery and choice of service level must be addressed at the earliest stages of project planning. Community participation should be seen as a means to address these issues and ensure that conflicts are revealed at the planning stage, on the basis of which the community could negotiate service levels and organizational arrangements based on what they collectively want and are willing to pay for.
(2) Service levels should address articulated preferences with different service options within a community open to consideration, if there are differences in willingness to pay.
(3) Community participation, in keeping with the above, should be designed to ensure that a wide range of voices within a community are heard in an active process. Ensuring linkages between the resulting community organizations and municipal institutions would be central to the process of participation.

Having learned lessons of the past and of other donors and NGOs, the World Bank is currently working on Urban Restructuring and Water Supply Project, which stresses community participation as an important element for sustainability. The Project has demonstration components with the objectives of (1) developing sustainable water systems in low-income urban communities, (2) strengthening institutional capacity and linkages within and between city councils and participating communities.

A consulting firm from South Africa is currently undertaking the work specifically related to the third goal of developing "structure plans". It is envisaged that the structure plans will form the overall framework for the urban upgrading efforts in Zambia, and hence it is important that JICA's Development Study coordinate with the team from the World Bank so that the work of the Study fall within the framework of the structure plans

GTZ

The Kalingalinga Integrated Upgrading Project, developed as a direct outgrowth of the previous housing experiences of Lusaka Upgrading Scheme funded by the World Bank, was implemented by GTZ during 1979~86. The concept emphasized the following three main aspects.

(1) Active involvement of the community in planning, decision-making and implementation, in order to fuse LCC professional knowledge with local awareness of problems and aims
(2) Integration of social and economic improvement along with the upgrading of houses and infrastructure
(3) Emphasis on self-help action and initiative at both the family and community levels

The components of the project included the following:

(1) Provision of facilities that a community lacks: school, clinic, community center
(2) Installation of basic utility infrastructure: water standpipes, roads, street lighting
(3) Provision of house improvement loans through a community based revolving fund
(4) Promotion of economic activities and income generation
(5) Experimentation with lower-cost construction materials and techniques, and alternative sanitation methods

In the project, the community took part in decision-making from the very start of the project. There were clear advantages in community involvement: (1) it assured community support of efforts; (2) it indicated potential areas before commitments are made; (3) it lowered costs; and (4) experienced community leaders could assist in finding solutions to difficulties

Irish Aid

The Irish Aid supported Compound Upgrading Program during 1991~1997 in four urban communities and councils including Kamanga in Lusaka. Now the Irish Aid supports PoCMUS (Promotion of Community Managed Urban Services) on the basis of experiences of their earlier intervention.

The initial project design of the Compound Upgrading Program focused on service delivery. The project attempted too much in terms of range of services and activities. Investment in infrastructure and services exceeded the capacity of newly developing community organizations, i.e., RDC, and thus compromised the goal of sustainable community management of services. Participation was simply seen as a means to implement the project efficiently, and thus the role of community was limited to labor contribution in reality. Sustainability was not clearly at the forefront and thus strategies were not articulated to achieve them.

The project generated the following lessons for development of a concept for PoCMUS, which is now implemented in several municipal towns outside Lusaka.

(1) Potential for strengthening community management exists and should be a primary focus on all projects.
(2) Options should be explored for increasing responsibility and contribution of communities for operation and maintenance, especially of water resources.
(3) Emphasis should be placed on fostering group and individual enterprise in relation to community managed services, rather than on poor people filling long-term voluntary posts.
(4) Priority should go to ensuring that participation brings net benefits to all residents, especially the poorest women and men, and this will require special measures and activities.
(5) Increased self-reliance of communities should be the main objective of the next phase.

PoCMUS gives more importance to community empowerment and sustainability while the Compound Upgrading Program focused on service delivery. The distinction between the two is clearly demonstrated in the degree of community participation (see following table). In the Compound Upgrading Program, the major role of the community was to participate in the implementation for effective and efficient implementation of social infrastructure development. In PoCMUS, the overall objective is to build the capacity of a community to identify their needs, prioritize them and plan on how to meet them.

Perception of Compound Upgrading Program vs PoCMUS

Compound Upgrading Program	PoCMUS
• Work moved very quickly	• Work is moving very slowly due to delays in approving projects and disbursing funds
• Irish Aid led the pace of development Now the community makes the decisions	• Community is in the "driving seat"
	• Councils have come closer to the people
• Coordinators received salary supplements from Irish Aid and were very committed to the projects	• Coordinators may not be so committed in the absence of salary supplements from Irish Aid
• Community was not concerned about the sustainability of projects	• Community decide on what services they want and manage them

Kamanga settlement in Lusaka was the first pilot project undertaken by the Compound Upgrading Program. During the course of implementation, the Irish Aid shifted its approach from Compound Upgrading to PoCMUS. This shift was a struggle in the community. When the Irish Aid was in charge, things went faster

and more smoothly. When the community took over, the pace of progress slowed down and there were less visible signs of improvement (refer to Case Study 1).

Case Study 1. Kamanga: from Urban Upgrading Project to PoCMUS

The Irish Aid supported Kamanga with Urban Upgrading Project in 1991 through 1997. During the period, various community infrastructures were established including community center, a water scheme with 25 stand posts, 6 boreholes with pumps and elevated tanks, community school, road / drainage, pit latrines.

At first, community participation was stressed in the process of project implementation. The community contributed much free labor in trench digging for the water scheme and road / drainage. As such, quality of the infrastructure had to be compromised to a certain extent. Consequently, the drainage is almost buried now.

The water scheme implemented here is rather simple from a technical point of view. These technologies lend themselves to community management. When 2 of the pumps were broken, RDC managed to repair at least one on their own.

The RDC collects monthly fee of 1,200 kw from the users. Of 13,000 population (1,047 households), approximately 80% are paying for water. There are some defaulters because of poverty. There are still those who are discouraged to pay because of others who are somehow getting water free.

The one million kw RDC collected monthly pays for maintenance of facilities and payment of workers (4 security guards, 18 stand posts attendants, 7 general staff at the community center). Stand posts attendants are paid 40,000 kw per month supplemented by commissions for collection of fees.

The major source of income for RDC is rental of office space and parking lot in the community center as well as water fee. RDC also manages a revolving fund for loan to CBO, initially put in place by Irish Aid. This way, RDC strives to initiate self-help activities for the settlement.

The intervention of Irish Aid encouraged creation of CBO including Business Association, Community Health Workers, Gender Group, which are still active.

The original design of Kamanga Urban Upgrading Project placed heavy emphasis on physical outputs spanning broad sectoral areas. This created tension with the PoCMUS concept, which was adopted in the midst of interventions. As it is, PoCMUS gives more importance to community empowerment and sustainability rather than provision of services.

Sustainable Lusaka Program (SLP)

Sustainable Lusaka Program (SLP) is part of the Sustainable Cities Program (SCP) being implemented globally by the UNCHS-Habitat. The SCP facilitates the strengthening and improving of planning and management capacities in municipal authorities and their partners in public, private and community sectors.

SLP therefore aims to support a long-term sustainable growth and development of Lusaka through an integration of environmental planning and management and project implementation activities at community level in order to reduce poverty and enhance overall economic development. The program involves communities

and all main stakeholders of Lusaka in the formulation and implementation of issue strategies and action plans resulting in prioritized utilization of internal and external resources.

SLP encompasses a systematic Environmental Planning and Management (EPM) process that embodies many different concepts and features, as it sees the close linkages between environment and urban development. The strengthening of EPM capacity does not require creation of new organizations, but rather the focus is on establishing and developing collaborative processes that are firmly based in the local social and political context.

One of the major components of the EPM process is dedicated to capacity building with the goal to build system-wide capacity by working with a wider range of participants such as the private and public sector, non-government organizations, community based organization and development agencies.

The process to enforce community participation in SLP is described in five steps. (1) Community profiles to provide base information on socioeconomic status of the settlements, (2) formation of community structure if not existing, (3) community consultations to engage the communities in identifying and prioritizing environmental issues that require attention, (4) stakeholders workshop to develop action plans and strategies, (5) capacity building training program.

SLP, however, sees the limitation of "free" community participation in the long run. If it is just one time participation, such as labor contribution in trench digging for a water project, the community can contribute free labor. If it is something continuing, however, there is a limitation of what the community can contribute. Hence, the concept of community contracting came about. SLP in this context encourages the concept of community contracting as a way of sustainable management by the community.

SLP is currently being implemented and/or to be implemented in 6 settlements including Ng'ombe, Kalikiliki, Chibolya.

PUSH/WFP

Programme Urban Self-Help, known as PUSH, is a Zambian NGO working for poverty alleviation with WFP funding. PUSH implements WFP “Food for Work” (FFW) with major components being skill training, micro credit, construction work and food provision as an incentive, and adult literacy. The experiences of PUSH/FFW have been such that the beneficiaries consider their participation in "public works" as "temporary employment" and not as "participation in

community-managed activities". As a result of FFW, no sense of ownership of the infrastructure was cultured in the minds of the community people and hence the community did not feel the responsibility of maintaining the infrastructure. More dependency syndrome was created as an adverse effect of FFW.

In view of the situation, WFP is now shifting from "Food for Work" to "Food for Assets and Sustainable Employment". According to the WFP new working document, WFP aid should rely upon broad-based community participation in creating assets and sustainable employment for WFP target groups. Whether benefits from the use of FFW are sufficiently lasting depends on the circumstances of each case. Nevertheless, experience has shown that certain activity characteristics contribute to lasting benefits where FFW has been used to address food insecurity. As such an effort, non-food inputs or activities are to be implemented parallel to food provision. Creation of community-based organizations (CBO) in the target community is deemed as effective implementing partners for putting the effort into reality. The target community is encouraged to get involved in problem identification, decision-making on the approach/solution, preparation, organization and management of the food and other activities.

CARE

The goal of Program of Support for Poverty Elimination and Community Transformation (PROSPECT) is to alleviate poverty in unplanned settlements. The purpose is to assist representative Area-Based Organizations (ABOs) to develop, manage and maintain basic infrastructure and other services with particular emphasis on vulnerable individuals.

CARE began PUSH in 1992 as a component of a WFP-sponsored “Food for Work” (FFW). In response to initiatives of the predominantly poor women involved in the project, CARE began diversifying the project to elicit wider participation and a more sustainable community development focus and thus PUSH II began in 1994.

PROSPECT builds on the experiences gained in the Project Urban Self-Help (PUSH II: 1994~97), which involved 2,000 women from the lowest socioeconomic strata in infrastructure improvements and empowerment training, savings and loan activities, and the formation and development of ABOs in conjunction with the local authorities of Lusaka and Livingstone.

The main approach of PROSPECT consists of three mutually supporting components: (1) institutional capacity building; (2) physical infrastructure improvement, and (3) training and micro finance services. The heart of the process

is building the capacity of ABOs to manage development projects. The project will consolidate capacity-building with ABOs, establish concrete links with Council and other institutions, and ensure that management and maintenance of water systems are sound.

Water projects constitute the major infrastructure output of PROSPECT. The highly participatory model of water supply project was demonstrated in Chipata during PUSH II (see Case Study 2).

Case Study 2. Chipata Water Scheme Supported by CARE

A large community-managed water project was implemented in Chipata settlement for 44,000 people. The Chipata water system is being managed by the ABO with support from CARE, and specific financial support from the Council, and operations assistance from Lusaka Water & Sewerage Company (LWSC).

When the water scheme was introduced in 1995, CARE first organized a community consultation, followed by demarcation and creation of zones, training of leaders, RDC election. When RDC was elected, they mobilized the community people to identify priority needs, and as a result, the community decided that water was their priority need.

It was only in 1997 when the water scheme was finally completed by the community. This was inevitable because implementation of a water scheme with community participation is a process of learning, in which ABO (RDC and others) and the community were strengthened. It took one year for the community to complete the Scheme that stretches over 11 km with 41 taps, 1 borehole, 1 elevated tank, 3 underground tanks.

The community dug the trenches. While some contributed free labor, others contributed food, and paid for casual workers wages. A strong emphasis has been placed on developing linkages between the ABO, Council and LWSC, which have expression in several steering committees, regular communications with Council staff and Councillors.

The Chipata Water Scheme is managed directly by RDC with no water committee. The RDC employs 51 staff including tap attendants, 1 accountant, 2 cashiers, 2 typists and other support staff.

Of the current population of 70,000 (10,000 households), 8,200 households are members of the Scheme by payment of annual membership fee of 3,000 Kwacha. Nearly 100% of these members are paying its monthly fee of 3,000 Kwacha, which allows them to collect 140 litres of water each day. One of the contributing factors for high rate of fee collection may be attributed to the fact that tap attendants, though community members themselves, are assigned to the tap located far from their own home, thus freeing them from the pressure from neighbors and friends to give free water. This way, it becomes impossible for the community people to get water unless they pay for it. One interesting feature of community participation is that sanitation of the taps are maintained by the old and/or needy who cannot afford to pay for water. They clean the taps and in exchange they are given free water.

Of the fee RDC collects from people, RDC pays for O&M including extension of new pipes, workers salary, electricity bills. Of the monthly water fee collected, 55% goes to salary, 40% goes to operational cost (stationary, electricity, and others), and 5% goes to RDC Development Fund with which RDC can start other development work. All the annual membership fee goes to Capital Replacement Account for any future major repair work. CARE put 85% of the investment and RDC put 15% through annual membership fee.

New initiatives are also being undertaken together by ABO and Council without direct project involvement.

World Vision International (WVI)

World Vision International (WVI) has been supporting Chainda since 1991 with an overall goal of improving the standard of living of the residents by promoting the improvement of the social, economic, and environmental conditions of the Chainda community. The intervention of WVI in Chainda is envisaged to run over a 12-year period from 1996. The development activities in Chainda are multi-sectoral, as seen below.

① Community organization and advocacy
② Water supply system
③ Improved sanitation and hygiene
④ Small enterprise development
⑤ Community schools
⑥ Adult literacy
⑦ Christian witness
⑧ Improved health and nutrition
⑨ Child sponsorship
⑩ Community capacity building

The strategy to implement these diverse activities is promotion of transformational development that will be achieved through the following efforts:

(1) Enabling the community to own and manage the development process through civic education and training in project management
(2) Facilitating the creation of local institutions that will provide leadership and management of community projects
(3) Supporting economic enhancement of the community
(4) Encouraging linkages with relevant government institutions and NGOs for resource mobilization and technical assistance for long term sustainability
(5) Supporting various infrastructure development initiatives which will enhance social development

It must be noted, however, that implementation of such a wide range of activities is feasible only because of the long range support WVI can afford in a given area. Without assurance of a long-term commitment, implementation of such a holistic approach is not realistic.

Human Settlements of Zambia (HUZA)

Human Settlements of Zambia (HUZA), a national NGO, has been working in upgrading urban settlements since 1991. Currently HUZA is supporting several settlements including Bauleni, Chibolya, and Ng'ombe. The major areas of

activities are construction, appropriate technology, environment conservation, pre-school, food production, fruit processing, health education, income generation, and micro-credit.

The approach HUZA adopts is participatory in that it seeks to establish a self-managed, democratically controlled and self-sustainable area. HUZA in this direction gives training support to RDC in development of skills necessary to carry out their tasks in a democratic and efficient manner.

One strategy put forward by HUZA is to start with things people can see the results of the next day so that the community sees the net benefits immediately and clearly. This way, the community develops trust and shows eagerness to work for further improvement. Notwithstanding, HUZA's approach to community participation seems to differ from place to place and on the nature of activities.

3.2.2 Health and Public Health

JICA-PHC Project

It assists the LDHB (Lusaka District Health Board) in the area of Primary Health Care, a pilot project was conducted in George. Other activities by JICA PHC Project are:

- to conduct income generation activities (micro-credit),
- to provide skill training,
- to promote youth development (sports & cultural activities),
- to promote school health,
- capacity building of health staff,
- to strengthen health information management system (HIMS), and
- to strengthen referral system in the Lusaka District.

Dfid

British Aid has upgraded eight health centers to have in-patient facilities (20-30 beds facilities) and provided all the necessary equipment. It has been strengthening urban health by funding the community health related projects, known in Lusaka as Community Initiative Funds (CIF). Two thirds of these funds have been used for projects related to environmental health and sanitation. It also has been providing training for health workers in clinical management skills.

USAID

USAID has been providing support for the Government of the Republic of Zambia (GRZ) in reproductive health, child health and HIV/AIDS programs, involving a wide variety of cooperating agencies. Technical and operational coordination of activities has been helping to create a cohesive environment and program while reducing the burden imposed on GRZ.

The major areas of activities are:

- Provide training of health workers in integrated management of childhood illnesses,
- Assist in the area of family planning, and
- Support the district in the area of HIV/AIDS activities.

IRISH AID

Irish Aid has been supporting maternity services in Lusaka district and has put in place a reliable referral system by donating ambulances.

UNICEF

The Government of Zambia/UNICEF Country Program, a partnership to improve basic services for children and women in Zambia, was initiated on 1 January 1997 and will be continued till 31 December 2001. It comprises the following four programs in order to strengthen Zambian capacities for the promotion of sustained improvements in the survival, development and welfare of women and children.

- Primary health care and nutrition,
- Education for all,
- Water, sanitation and hygiene education, and
- Advocacy, planning and action for women and children.

Society for Family Health (SFH)

The Society for Family Health (SFH), known as the Zambia Social Marketing Project, is a registered Zambian NGO which complements the public sector programs of Zambia's Ministry of Health by reducing the economic burden on government health institutions. It encourages clients who can afford to pay for health products from nearby drugstores, private clinics and other outlets. This way, health products can be accessed at thousands of outlets, not just in public clinics and hospitals.

There are three social marketing approaches of SFH:

- Distribution of affordable health products,

- Communications to motivate for healthy behavior, and
- Training for medical providers and product vendors.

Planned Parenthood Association of Zambia (PPAZ)

The Association aims to play an advocacy and advisory role through participation in the formulation of national regulations and policies. PPAZ's Family Planning Centers provide high quality and comprehensive health services in Lusaka through the clinic based and outreach service approach. Activities include strengthening of follow-up services, counseling, detection and treatment of sexually transmitted diseases, redesigning service hours to meet client preferences, training staff and volunteers in special skills, soliciting voluntary support from professional counselors and sensitizing police and health personnel in casualty departments on emergency contraception and counseling.

AFRICARE

Africare is a private, non-profit organization, dedicated to improving the quality of life in rural Africa. Since 1971, it has helped Africans grow more food, develop water resources, improve health services and protect the environment. In Zambia, it's been working to provide health and hygiene education together with the construction of VIP latrines, technical training and support for the communities in peri-urban Lusaka to improve their living conditions.

SHEFA (Shelter for all)

SHEFA is a non-governmental organization, promoting low-cost and affordable housing based on partnerships and participatory strategies involving the beneficiaries and other players involved in human settlement development. There are several key strategies of SHEFA:

- Expand the supply of affordable housing through promotion of locally available, affordable, appropriate and environmentally sound construction methods and technologies,
- Establish small-scale local building materials production centers thereby increasing accessibility to local building materials, and
- Promote increased women's participation in legal home ownership through skill training, education.

CARE INTERNATIONAL

CARE INTERNATIONAL has adopted health centers where it has provided the following services:

- Training of family planning providers in family planning,

- Provision of logistical supplies, and
- Technical support.

CARE –PROSPECT (environmental health)

CARE-PROSPECT'S environmental health education projects have been combined with other projects such as water and micro-credit projects. It has provided the following services:

- Celebrated World Water Day (awareness creation through displays of IEC, drama, songs, video show on disease transmission);
- Conducted intensive health and hygiene education in Kanyama; and
- Established effective partnership with the community-based organizations, such as NHC, RDCs, churches, schools and clinics.

Other

The majority of NGOs work independently within the communities in constant consultation with the district in Home Based Care and other health related activities.

3.2.3 Education

Education by JICA

JICA is now supporting to establish full basic schools by Grant Aid in Lusaka city. For the first phase in 1999, school facilities are constructed in Bauleni, Ng'ombe, John Lange and Mbara and Chainda, Barastone, Libara and Kabulong will be planned for the second phase in 2000.

UNICEF

In line with the National Policy on Education, the Programme Projects of the UNICEF are:

- Project 1: 'Education For All (EFA)' Policy and planning
  To strengthen the capacity of the Ministry of Education to develop policies and plans with enhance equity of access to quality, relevant primary education.
- Project 2: Learning Achievement
  To strengthen national capacities to develop approaches, teaching and learning methodologies and materials which promote learning achievement.
- Project 3: Learning Opportunities
  To develop and expand learning opportunities and life skills education for out-of-school children and adolescents (7-16)

In 1998, the total budget for the EFA was US$2,314,295.

ZOCS (Zambian Open Community School)

ZOCS is a local NGO specializing in the area of non formal education and supports operation of community schools by participatory approaches in poor communities. ZOCS first established an open community school at Katwata settlement in 1992. Since then its operation has expanded, and now there are 24 schools (20 in Lusaka city) with 4,412 pupils in the country. As ZOCS concerns with the rights to education, particularly a right to a quality basic education, it targets those children who are most likely to be denied because of financial hardships in the family, being orphaned, and gender (girls are less likely to be sent to school than their brothers). In the implementation of schools, ZOCS puts great emphasis on the quality of teaching, training of teachers, recruitment of teachers (they are directly from the same settlements or communities as the children), and community development by reinforcing the capacities of Parent/Community Committees (i.e. PTA).

In the near future plan, ZOCS will implement income generating activities (micro credit project) for those who completed the community school.

3.2.4 Income Generating Activities

AMDA (The Association of Medical Doctors of Asia)

AMDA is an international NGO based in Okayama, Japan. Initially it focused on the medical emergency and relief work by dispatching doctors and other medical specialists to the front of wars and disastrous areas in the world. But recently it is gradually changing the direction to expand the activities into the development field, with emphasis on the public health. In Zambia, AMDA attempts to create a comprehensive program, and its main objectives are to improve the health conditions of poor residents, particularly children and to alleviate poverty which usually causes health deterioration. Most of the present projects are implemented in the George settlement for the tailoring classes, the health education, the literacy class, community agriculture enterprise, the micro credit, the road rehabilitation, emergency material deliveries, and staff training.

CARE PROSPECT and PULSE

CARE PROSPECT (Program of Support for Poverty Elimination and Community Transformation) and PULSE (Peri-Urban Lusaka Small Enterprise) provide micro credit services. The former mainly focuses on the poorest of the poor in the settlements who have never had business experience before, and the latter

supports those who already have business experience. Since it is more difficult to handle to train the poorest who have no business experience, CARE PROSPECT supports only 60 women at the moment. On the other hand, the PULSE has a bigger operation with 6 ongoing projects in George, Mutendere, Kanyama, Mandeve, Chawama, Chilenje and current total number of members is 2263 (1,357 women, 906 men). CARE's PROSPECT and PULSE are the most established and organized micro credit projects which foster small business enterprises for the poor in the settlements of Lusaka.

3.3 Existing Organizational Framework and Capacities

As participatory development projects in UUSs has been undertaken by local authorities and communities, it is significant to evaluate those organization framework and capacities.

3.3.1 Local Authority Level

Social services in unplanned urban settlements (UUS) are carried out by the intervention of several organizations as shown in following table and Table 3.3.1.

Organization in Charge for the Social Service in UUS

Social service	Organization in charge
1. Land development, administration, building permit, etc.	City Planning Dep. of LCC
2. Legalization of UUS	City Planning Dep. of LCC
3. Development of community organization such as RDC	Housing and Social Service Dep. of LCC
4. Research of community	Housing and Social Service Dep. of LCC
5. Development and improvement of social services in UUS	Housing Dep. of LCC, Public Health Dep. of LCC, LWSC, relevant Ministries, NGO
6. Operation and management of social service	community + Ditto
7. Networking among donors and NGO (Forum)	Housing and Social Service Dep. of LCC

Departments of LCC play significant roles in the development and improvement of social services in UUS, though clear work sharing between departments is not made. The existence of two Peri-Urban sections in the City Planning Department and Housing and Social Department makes uncertainty more serious. Peri-Urban Section of City Planning Department possess architect for building and land development supervise in UUS, and the other Peri-Urban Section of Housing and Social Department works for arrangement and enhancement of community organization and promotion of participatory development. Peri-Urban Section of Housing and Social Department has no engineers nor architects. Detailed organization charts of the two Peri-Urban Sections are illustrated in Figures 3.3.1 and 3.3.2.

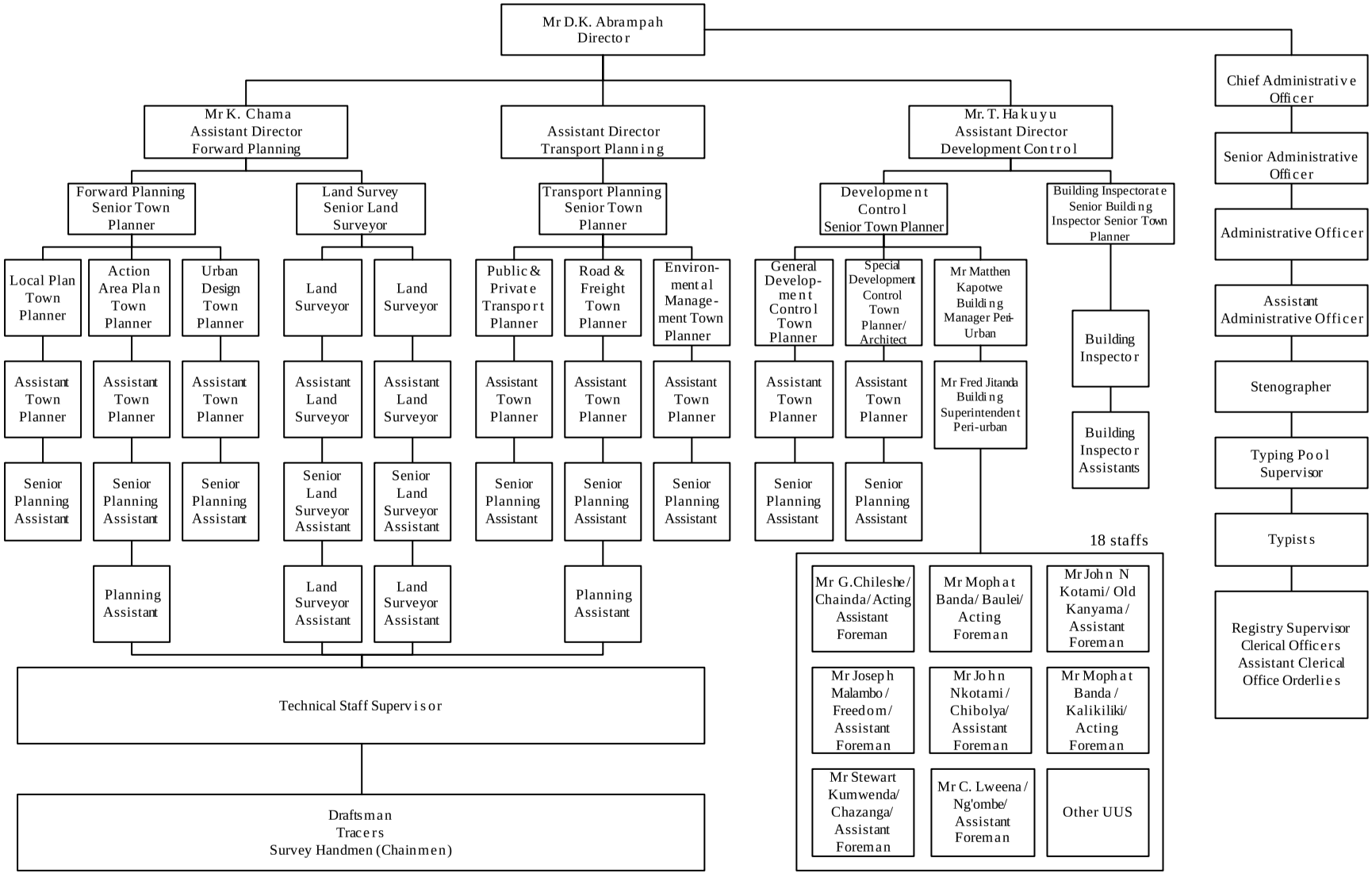
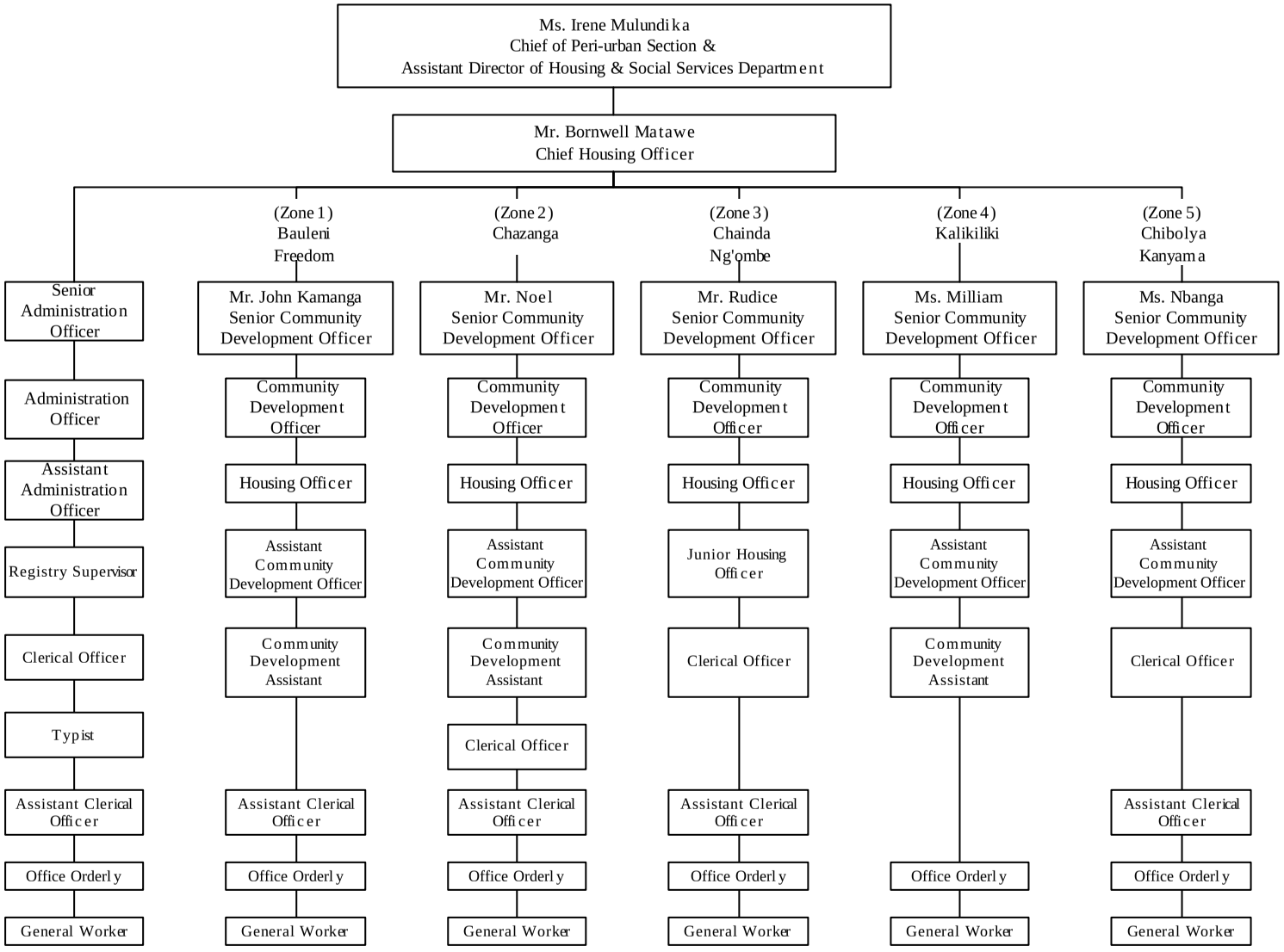


Figure 3.3.1 Organization Chart of City Planning Department of LCC



Source: Peri-urban Section, LCC

Figure 3.3.2 Organization Chart of Peri-Urban Section of Housing and Social Service Department LCC

Public Health Services

In 1994, at the time of Health Reform, curative service was separated from the Lusaka City Council, Public Health Department (LCC-PHD) to the Central Board of Health (CBH), leaving only preventive services to the LCC. The organization chart and contents of the services provided by LCC-PDH are as follows:

- Residential spraying, distraction of mosquito breeding grounds
- Encourage use of treated bed nets through the Neighborhood Health Committee
- Intensify Health Education for post cholera outbreak
- Solid waste collection from primary collection point (only in selected area)

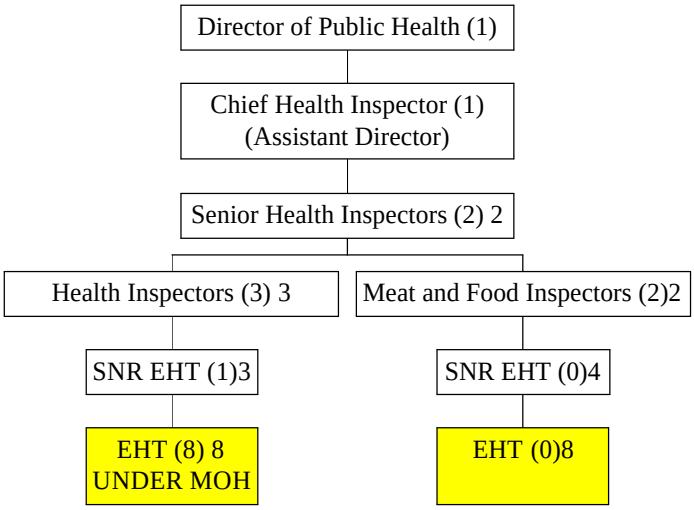


Figure 3.3.3 Organogram of LCC Department of Public Health (PDH)

LCC-PHD has limited financial resources to adequately carry out preventive service. One such example is its inability to purchase chemicals like Icon for Mosquito and Cockroach spraying and Chlorine for chlorinating shallow wells doted in most shanty compounds, often times LDHMT has assisted LCC-PHD in the purchase of chemicals.

3.3.2 Community Level

(1) Resident Development Committee (RDC)

Within each settlement, there are various community organizations. In the very forefront is RDC (Resident Development Committee) whose major role is to facilitate development and implement development projects.

When the Government recognizes a settlement as legal, LCC starts the process of the area survey and organization of RDC (Figure 3.3.4).

The concept of establishing a democratic RDC was first introduced by CARE around 1994, but now is integrated into LCC as its standard operational system. Although the current RDC Constitution does not reflect the concept of zone or forum of zonal representatives (FZR)[1], LCC adopts the concept and supports any new settlement in electing democratic, non-partisan RDC.

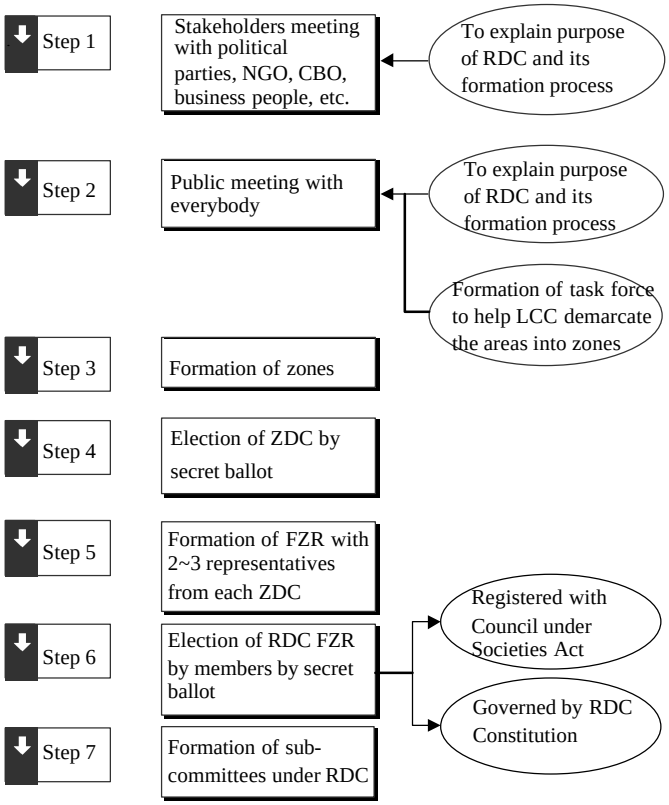


Figure 3.3.4 Community Organization

According to the RDC Constitution, the aim of RDC is to promote the improvement of the living environment of the settlement and the livelihood of the residents by doing the following:

1) Improving market facilities, road and drainage, public health, water and sanitation and garbage removal/improvement of existing shelter and constitution of recreation amenities, education, economic, cultural activities and other developments.

2) Instituting appropriate management structures for human and financial resources as basis from which community plans can be developed in order to improve the living standards in the settlement.

[1] There is a task force convened in LCC Peri-Urban Section of LCC to review and revise the existing RDC Constitution to suit the current social framework.

3) Ensuring that all levels of women and men are included in training for leadership, business management and technical skills that enable them to uplift their social, economic and political independence so as to realize self-sustaining programs.

4) Engaging the participation of residents to express their felt needs in the community participation program for effective execution, maintenance, sustenance and consolidation of project activities undertaken by the committee.

5) Organizing and training the local community to undertake its own monitoring and evaluation.

6) Promoting communication about needs and potential means of meeting them among local residents and all outside authorities and agents and to attempt to coordinate their works.

7) Promoting research on any area of study for the advancement of the local community.

8) Providing information and advisory services to all its structures and more so to the standing sub-committees to enable communities to discharge their responsibilities efficiently.

9) Doing all such things as shall reasonably further the objectives of the committees in the settlements

(2) Zone Development Committee (ZDC)

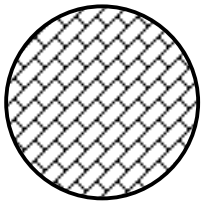
Each settlement is divided into zones. In each zone is found a Zone Development Committee (ZDC), normally consisting of 10 people democratically elected by the zone residents. Two to three representatives from each ZDC make up Forum of Zone Representatives (FZR). FZR is a body whose major role in the settlement is policy-making. RDC, normally of between 10-15 members, is formed with the elected representatives from FZR. The structure for a democratically elected RDC is shown in Figure 3.3.5.

The prime roles of ZDC are to (1) identify development needs and bring them to the attention of FZR (2) support RDC, NGO, LCC, etc. in carrying out development work in the zone. Once the issues are brought up to FZR, FZR makes decisions.

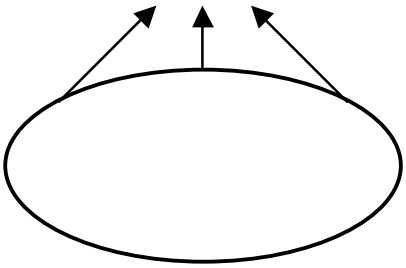
(3) Community Based Organizations (CBO)

In many settlements, sub-committees are organized under RDC. Most commonly found are neighborhood watch committee, water committee, and health committee. They are established on the basis of the identified needs and the executive members of RDC determine the detailed roles of the sub-committees.

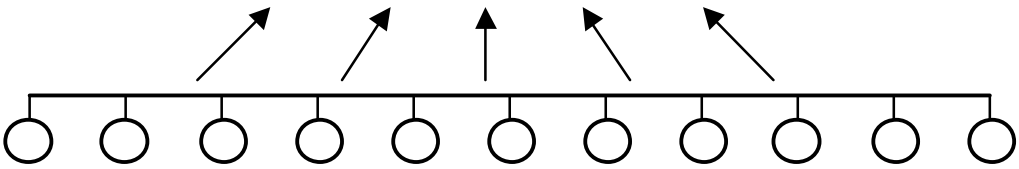
Equally prominent in the settlements are what are called CBO, community-based organizations, such as church, women's group, youth group, and market committee, among others. They are formed voluntarily by the residents with a common interest and a specific purpose.



Election of Resident Development Committee (RDC)
* Elected by members of FZR
* Provision of compound-wide coordination
* Registered with Council under Societies Act
* Governed by RDC Constitution



Establishment of Forum of Zone Representatives (FZR)
* One man and one woman from each zone
* Coordination and decision-making on policy issues



Zone Development Committee
* 10 members (chairman + secretary + 8 other members)
* Support RDC and FZR, Council, NGO
* Identify development needs facing the zone and bring them up to FZR

Figure 3.3.5 Structure for Democratically Elected RDC

In some settlements, a neighborhood health committee (NHC) is found. NHC is an independent committee in a settlement made up of the residents who volunteer to work for better health in the community in close cooperation with the nearest health center. In a settlement where there are both NHC and RDC-Health Committee, there does not seem to be an established mechanism of collaboration between the two, although both are designed to work for health. They often do not recognize each other.

A Project Cycle Management (PCM) Workshop organized by the JICA Study Team during the first phase suggests that different stakeholders can play enormous roles as in the following table.

Various Stakeholders at Play

Various Functions	Stakeholders at Play
Policy Makers	MLGH
Funders	GRZ (such as water affairs dept) Local authority (such as LCC) Politician, MP (member of parliament), councilor Donor NGO (such as CARE, HUZA, World Vision) Service organization (such as Rotary, Lions Club) LWSC
Implementers	Private sector Drilling company Water vendor CBO (such as RDC, water committee, community group) Resident in general Councilor Donor
Beneficiaries	Resident in general, esp. women and children Community group (such as church, women, NGO) Police RDC Consultant Contractor

The PCM Workshop also indicated that RDC could actually play vital roles in project implementation. The major roles suggested include (1) decision-making, (2) management, (3) facilitation, (4) leadership, (5) mobilization of community, (6) representation of community, (7) linkage between community and local authority/others.

Table 3.3.1 Responsible Organization for Social Service Development

	Work	Responsible Organization
1	City planning/design of Lusaka	City Planning Dept., LCC
2.	Land title registration, administration	
	2.1 In Township	Legal Dept., LCC
	2.2 In Peri-urban	Peri-urban Section of Housing Dept., and Legal Dept., LCC
3.	Building/Land control, permit	City Planning Dept., LCC
4.	Legalization of Peri-urban	City Planning Dept., and Legal Dept., LCC
5.	Promotion, strengthening of community organization	Peri-urban section of Housing Dept., LCC
6.	Social survey on Peri-urban	Research unit of Housing Dept., LCC
7.	Development	
	7.1 Road/drainage	
	National road	Ministry of Communication and Transport
	Local road	Engineering Dep., LCC
	7.2 Water supply, sewerage	LWSC
	7.3 Power supply	ZESCO
	7.4 Telecommunication	ZAMTEL, Private initiative
	7.5 Garbage disposal	Dep. of Public Health, LCC
	7.6 Education	Ministry of Education
	7.7 Health, medical care	Ministry of Health/District Health Management Team (DHMT)
	7.8 Security	Ministry Home Affairs
8.	Maintenance/operation	
	8.1 Road for local road	
	National road	Ministry of Communication and Transport
	Local road	Engineering Dep., LCC
	8.2 Water supply, sewerage	LWSC
	8.3 Garbage disposal	Dep. of Public Health, LCC
	8.4 Telecommunication	ZAMTEL, Private initiative
	8.5 Garbage disposal	Dep. of Public Health, LCC
	8.6 Education	Ministry of Education
	8.7 Health, medical care	Ministry of Health/District Health Management Team (DHMT)
	8.8 Security	Ministry Home Affairs

Source: JICA Study Team by hearing from Peri-urban section, LCC

[2] Mwanza E and Mbizule C, Community Reflections.

CHAPTER 4 CONCEPTUAL FRAMEWORK FOR SOCIAL SERVICES DEVELOPMENT IN UNPLANNED URBAN SETTLEMENTS

4.1 Needs for Social Services in Eight Unplanned Urban Settlements

4.1.1 Health, Water and Sanitation

(1) Health Services

Based on the survey, there are only four settlements that have government clinic, and within these four, only one clinic opens 24 hours and has a maternity ward. an interview with pharmaceutical officer in each clinic revealed that health centers had an average of 34% of the essential drugs suggested by MOH.

In addition, under the health reform, one cannot go to the first referral teaching hospital in town unless he/she is referred to by their local clinic. Cost-sharing of Kwacha 250,000/month for a small size clinic, Kwacha 500,000/month for a middle size clinic limit access to government health services. Therefore, those who can not afford to pay for the service generally opt for home treatment or just go to the pharmacy and purchase drugs. In Chazanga, Chibolya and Freedom where there is no clinic, needs expressed by the community for constructing a health post or small-size clinic is ranked relatively high. Based on the survey, the needs and demands for health services (lack of a 24-hour clinic with a maternity ward) were identified and ranked by community leaders in eight unplanned settlements as shown below.

Demand for Health Services in Eight Settlements

Area	Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
Rank	2	3	6 (no clinic)	2 (no clinic)	2 (no clinic)	2	—	5

Source: The Community Survey conducted by JST, July 1999

Regarding the quality of services, 80% of women leaders interviewed, responded that they are dissatisfied with the services because of their long waiting time, lack of medicines and the bad attitude of the staff.

Two major health service needs in the eight unplanned settlements are as follows:

- Establishment/Renovation of 24-hour open clinic with maternity wing
- Availability of Essential Drugs at the clinic

(2) Water

The sample survey on community rating of water services rendered by the Lusaka City Council (sample size=362 households (182 urban, 180 peri-urban)) showed that 86% of respondents of peri-urban area rated the council services not adequate, whereas 53% of those from urban area rated it inadequate. The survey concluded that there is an association between locality and the implementation of water supply. In other words, the difference of water services provided between urban and peri-urban is statistically significant. This is confirmed by the result of the interview conducted by the ST, which concludes that the community needs for water was ranked number one in six out of eight settlements.

Demand for Water Services in Eight Settlements

Area	Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
Rank	1	6	4	1	1	1	1	1

Source: The Community Survey conducted by JST, July 1999

Needs for water are categorized into several different types:

- Access to protected water sources needs to be improved

In peri-urban areas, access to safe water ranges between 25% and 60%. Especially in Ng'ombe, inadequate water supply leads to drawing water from the stream and individual shallow wells which are at high risk of contamination. According to urban/peri-urban community environmental health research conducted by LDHMT, 49.7% of the people studied pointed that their houses are far (distance of greater than 500 meters) from a water source.

- Sanitary behavior needs to be taught and changed

80% of women interviewed felt that the water at the communal tap is clean and do not filter nor boil water. Very few people wash their hands after defecation, or after attending to small children when fecal contamination usually occurs.

- Cost for water services needs to be affordable

Some families, especially female-headed households, cannot afford to pay for the water. Cost of water varies from place to place in the one settlement.

- Sustainability and maintenance of the water facilities needs to be improved

About half of all water supply systems are not functioning because of breakdown and maintenance neglect.

(3) Sanitation Services

In 1997 total outpatient department (OPD) first attendance in Lusaka HCs, diarrhea ranked number three, consisting of 14% of total attendance. There is a problem of high morbidity and mortality due to inadequate sanitation services. Three major problems on sanitation services are as follows:

- Low access to adequate sanitation and contaminated environment due to lack of sanitation facilities
- Poor personal and domestic hygiene practices
- No services provided by Local authority (LCC) for home latrine improvement

The same survey on the community rating of services rendered by the Lusaka City Council also revealed that 98% of respondents of peri-urban area and 93% of urban area rated the sanitation services by LCC not adequate.

1) Latrine

In all eight settlements, sanitation facilities are provided by the residents themselves and are mainly unlined ordinary pit latrines. The previously mentioned environmental health survey in Lusaka showed that the majority of households had toilets of some kind (varies from simple pit to VIP), but observations showed that the majority were poorly constructed and some were full of refuse but still being used. Those who have no home latrine have to share one with neighbors or use the public latrines such as those found at bars/taverns. The Study Team also found that only 50% of people feel the condition of the latrine is good, whereas 16% feel the condition as very bad. Although needs for assistance for home latrine improvement was not ranked high by the community, it was repeatedly pointed out in all study areas (except for Kalikiliki) by the health center staff, EHTs, nurse in charge and NHC leaders.

2) Solid waste disposal

The observation and interview with environmental health professionals revealed the following:

- Residents have no household bins to store garbage and there is a general lack of health education. Uncontrolled dumping of domestic solid and liquid waste on the sides of roads in the settlement
- No services provided by Local authority (LCC) for institutional waste services (17% of all Lusaka is not covered)

As the next table shows, the results have been disease outbreaks such as

malaria, diarrhea, cholera, foul smells, dirty surroundings, blocked roads and pathways. Especially Ng'ombe clinic sister-in-charge interviewed pointed that there is a stream in which solid wastes dumped above the hill flow and causes increased incidence of schistosomiasis and malaria.

Health Risks of Solid Waste Disposal

Type of waste	Diseases by cause		
	Bacteria	Virus	Parasite/Fungus
Infected sharp waste	Staphyloccosis Streptococcosis	Hepatitis B, Hepatitis C	
Waste-generated infected dust	Anthrax	Trachoma Conjunctivitis	Mycosis
Vectors living/ breeding in waste-generated ponds	Pneumonia	Dengue Yellow fever	Malaria filariasis Schistosomiasis
Stray animals and rodents feeding on waste	Plague	Rabies	Leishmaniasis Hydatidosis

Source: National Environmental Sanitation Strategy for Rural and Peri-urban areas in Zambia

Overall, the community needs for garbage collection system was ranked within top 10 in five settlements.

Demand for Solid Waste Disposal System in Eight Settlements

Area	Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
Rank	4	—	—	6	—	9	6	8

Source: The Community Survey conducted by JST in 1999, July

- Two major solid waste collection/disposal service needs in the eight unplanned settlements are as follows: Each household is given health education on waste management and provided household bins to store garbage
- Ensure periodical collection of waste by LCC

4.1.2 Education

Based on the survey, the needs and demand for education were identified by the priority ranking (out of ten). The following table shows the needs and priority given by the RDC and CBO members in the settlements.

Need for School in 8 Settlements

Settlement	School Level	Priority Ranking
Bauleni	Secondary School	6
Chainda	Primary School	1
Chazanga	Primary School	2
Chibolya	Secondary School	4
Freedom	Primary School	7
Kalikiliki	Primary School	3
Ng'ombe	Low priority	-
Old Kanyama	Secondary School	6

Source: Community Survey by JST, July 1999

The survey indicates that out of seven settlements (Ng'ombe did not raise school needs), four settlements need primary schools and three need secondary schools. In fact, in Chainda, Chazanga, Freedom and Kalikiliki where there are no primary schools, children are forced to go far away to government schools rather than going to community schools. Distance to the school is a major concern for many children and parents. As Bauleni, Chibolya and Kanyama already have basic schools in or near the settlements, they prioritize the establishment of secondary school (G8-9). However, it has to be noted that the present services and supplies of basic education cannot necessarily meet the needs in both quantity and quality even which there are primary schools in the settlements. For instance, in Chibolya where has a government primary school, about 3,000 children in the settlement are estimated to be out-of-school, according to the school master of the Chibolya middle school. In Bauleni basic school, the low quality and poor services of education are evident as many students are not provided desks and chairs but sit on the floor in the crowded classrooms, and there are not enough teachers allocated in proportion to the number of students. In this regard, the needs and demand of education cannot be justified only by existence or non-existence of school facilities, but should carefully be evaluated by both communities and education specialists in terms of the present qualities and services.

In the meantime, the following table shows the demand projection of basic and higher education in the National Policy on Education by the Ministry of Education. According to this, there will be a 1,446,146 increase in school age population in the year 2015. If the national policy can promote and achieve the 'Education For All' as planned, the number of pupils in primary education (G1-7) and upper basic (G8-9) will increase by 32% and 182% from 1999 to 2015.

Enrollment Projection and Increase for School Age Population

Year	Lower Basic (G1-4)	Middle Basic (G5-7)	Upper Basic (G8-9)	High School (G10-12)	Total	Increase Cumulative
1995	952,491	613,420	132,493	66,881	1,765,285	-
1999	1,007,773	708,476	204,842	56,404	1,977,495	212,210
2000	1,024,384	718,875	224,716	71,435	2,039,410	274,125
2005	1,044,222	745,676	326,571	194,095	2,310,564	545,279
2010	1,189,337	799,986	425,342	271,632	2,686,297	921,012
2015	1,352,826	911,087	576,737	370,781	3,211,431	1,446,146
Increasing rate (2015/1999)	32%		182%	557%	62%	-

Source: Educating Our Future, National Policy on Education, Ministry of Education May 1996

4.1.3 Economic and Income Generating Activities

Increased income will generally be among higher priority of low-income households although it may be difficult to find economic activities or more stable incomes.

As already explained, poverty line is applied to measure the households' capacity to purchase (or obtain) food, and this is the main determinant of whether they are poor.

Avoiding poverty in urban areas means having access to income earning opportunities, because most urban households need a higher cash income than most rural households for:

- Food, as food is more expensive (unless urban households have no possibility to produce any of their own foods)
- Housing (for rent, self-built house is also expensive as house and building materials are more expensive)
- Public transport (for getting to and from work and essential services)
- Access to water, sanitation and garbage collection (for many urban households, the payments made to water represents a crucial item of household expenditure, some households may pay for garbage collection while some pay for access to latrines)
- Schools (where school fees and associated costs, including getting to and from school are higher than in rural areas)
- Health care (where treatment in health facilities is popular, or there is no public or NGOs services available so private services have to be purchased)
- Child care (where all adult members have to find income earning opportunities and child care is needed but there are no low or no-cost solutions)

Although the priorities on the issues of poverty and employment differ among different groups within each settlement as shown in the following table, more attention must be paid to income generating activities because there is clear evidence that inhabitants in all settlements are living under the poverty line.

Ranking on Poverty and Employment by RDC Members

Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
3	4	low priority	low priority	5	8	low priority	3

Source: Hearings from the RDC, CBOs members in 8 settlements.

The following table shows the breakdown of monthly expenditure in households. Estimates of even simple measures like income, expenditure or consumption varied widely among the settlements. Although having reliable data is crucial to measure and analyze the scale and nature of poverty, below is the best available data of expenditure. According to this, the cost of a staple diet (excluding vegetables, meats and fish), Mealie meal accounts for 35% of total consumption for the poorest households. This is a big proportion and many are forced to lead a hand-to-mouth existence. Needless to say, it is highly unlikely that the poorest can afford to pay the social services like health care, education, water and sanitation.

Thus, the demand to increase the level of income reflects not only the poverty reduction for individuals or households, but also the better and the sustaining social services and the enhancement of overall economic capacity in the settlements.

Monthly Expenditure in Households

Items	Amounts/month (Kwacha)
House rent	10.000-120,000
Mealie meal	17,500-60,000
Charcoal	5,000-37,000
Education	5,000-20,000
Medical Fee	1,500- 30,000
Transport	10,000-50,000

Source: Hearings from the RDC, CBOs members in 8 settlements.

4.1.4 Others

(1) Road

Needs for road improvement was ranked by community leaders as shown in the following:

Ranking of Needs for Road Improvement by UUS

Area	Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
Rank	8	—	3	5	3	4	3	4

Source: The Community Survey conducted by JST in July 1999

Almost all UUS ranked road improvement as the high priority project except for Bauleni and Chainda, where PUSH carried out the road improvement by food for work scheme recently.

(2) Security Problem

Security problem is also highly ranked as shown below.

Ranking of Needs for Security/Police Post by UUS

Area	Bauleni	Chainda	Chazanga	Chibolya	Freedom	Kalikiliki	Ng'ombe	Old Kanyama
Rank	5	2	1	3	9	5	5	2

Source: The Community Survey conducted by JST in 1999, July

It should be noted that despite the existence of two police posts in Old Kanyama, needs for security is still a problem ranked high by RDC members. Quantitative and qualitative improvement for police role are required in Old Kanyama.

(3) Other Needs

RDC office, community hall, market improvement, skill training, housing improvement, etc. are ranked as the priority needs by RDC members.

4.2 Target Level of Social Services

The existing conditions of the social services in the eight UUSs are examined by the field inspection and surveys as described in Chapter 2. Based on the existing conditions and development standard regulated in Zambia, target level of social services was assessed and proposed below. Table 4.2.1 shows a summary of the target level proposed.

4.2.1 Water Supply System

The required water supply development level is described below.

(1) Water Source

The main source of drinking water is deep wells to be newly developed at each settlement. Well depth is estimated from 70 m to 100 m approximately judging

from the previous data of boreholes in the city. The diameter of the well is 150 mm, 200 mm or 300 mm. Suction level ranges from 40 m to 60 m. Pumping rate is supposed to be about 50 m^3/h on average. Although a submersible motor pump is set in principle at boreholes, a hand pump also is used in case of abstraction capacity with less than 1.5 m^3/h at northern area, such as Ng'ombe and Chazanga.

(2) Treatment and Distribution

Groundwater is pumped up to a service reservoir and chlorinated before being delivered to residents through a pipeline without a network system. Water quality standard prepared by the World Health Organization (WHO) is applicable for development of water supply system in the city.

A public-faucet system will be adopted for water supply except in previous service areas with individual house connection systems. A public faucet will be facilitated for every 200 persons served for 2010, though 400 persons are served by a faucet presently. Tap number is two per public faucet. The pipeline consists of Polyvinylchloride Pipe (PVC), Polyethylene Pipe (PEP) and galvanized steel Pipe (GSP).

(3) Design Water Supply

Unit water consumption per capita is recommended to be 20 lpcd for the present, 30 lpcd for the year of 2005 and 40 lpcd for the year of 2010, considering the examination of the present condition and information from LWSC. Water requirement, therefore, shall be estimated assuming the ratio of water losses is 15% even in the new constructed area. Peak hourly flow factor is taken as 1.6.

(4) Design Criteria for Distribution System

The minimum residual water height in the distribution main system under peak hourly flow condition is of 15 m. The maximum pressure under zero flow condition is to be 60 m. At the end of public faucet, the minimum residual water height is of 5 m in distribution submain.

(5) Operation and Maintenance (O&M)

The water committee organized by RDC will operate and maintain the community based water supply system. It is not necessary that LWSC will directly take part in O&M.

(6) Water Charge Collection and Management

The tap attendants who will be nominated by the water committee will collect and manage the water charge. It is also not necessary that LWSC will directly take part in the matter.

4.2.2 Wastewater Disposal

The sewer system is not established at the eight UUS. As for wastewater treatment method, on-site wastewater treatment will be introduced for night soil only. The wastewater disposal service level is proposed below.

(1) Domestic wastewater generation: 80% of domestic water consumption
(2) Unit amount of night soil per capita is assumed as 1.5 lpcd for pit latrine
(3) Wastewater disposal: on-site wastewater treatment
(4) On-site sanitation facilities: pit latrine/soak latrine for private and public uses, and flush toilet with septic tank for school toilet

To be technically, culturally, and environmentally appropriate and acceptable, technology should satisfy the following criteria:

- Cause no harmful surface soil contamination
- Cause no harmful contamination of untreated potable water sources
- Prevent the spread of disease by flies or animals
- Present no health risk to people using or maintaining the system
- Be free from offensive smells and unsightly conditions
- Be culturally acceptable and gender sensitive

(5) Collection system: a combined open drain system handling both storm-water and gray water

4.2.3 Garbage Disposal

The garbage disposal service level are assumed as shown below.

(1) Solid waste generation rate at each 5 years: 0.3 kgpcd in 1999, 0.5 kgpcd in 2005 and 0.8 kgpcd in 2010
(2) Collection point: Hierarchy of transfer stations, of which a primary transfer station serves 20 – 25 households and secondary transfer station collects garbage from primary transfer stations, will be necessary.
(3) Transfer station: concrete brick-made container prepared by RDC
(4) Collection supervising: garbage collection committee organized by RDC
(5) Service charge collection: garbage collection committee
(6) Collection and transport to outside UUS: LCC or private collector

4.2.4 Education

Sole sector in which the objectives and goals were set by the government is eduction.

In order to set the target, while responding to the needs and the demand of education addressed in each community, it is also important to correspond to the objectives and goals of education sector set by the government, and to examine the policies and strategies by donors or international agencies.

(1) Government Level

National Policy on Education puts special emphasis on :

- the first priority that ensures universal lower and middle basic education (G1-7) with good quality and gender equality for all children by the year 2005.
- the second priority that ensures universal full basic education (G1-9) for all by the year 2015.
- the encouragement that local communities to participate in the development, maintenance and repair of schools. Furthermore, the role of communities to develop community school is stated in the 'Educating our Future:1996' as follows:

  ...Communities that wish to establish a school, that would operate as a community school outside the government or District Education Board system, will be strongly encouraged to do so. The Ministry of Education will contribute to the running costs of such schools through the provision of teachers supplies, or through a system of capitation grants.

  …The Ministry of Education will assist communities and voluntary organizations that wish to develop their own school by providing them with technical assistance and guidance, supporting their efforts to mobilize funds and resources, supplying the new schools with educational materials, and providing them with an agreed number of state-funded teachers.

(2) International Agency Level (UNICEF Master Plan of Operation: 1997-2001)

In line with the Nation Policy of Education, UNICEF supports three projects as follows:

- 'Education For All' (EFA) policy and planning for the capacity building of MOE.
- Learning Achievement to enhance the quality of primary education by supporting the development of learning materials and improving teaching methodologies and curriculum relevance.
- Learning Opportunities to enhance learning of out-of-school children and women through non-formal education

Based on these strategies, the programs of UNICEF support policy and planning that will enable communities and families to take initiatives in the education

process, and the provision of quality primary education (G1-7), especially for girls and alternative forms of primary education with a view to increasing access and improving quality for those out-of -school. Since 1995, UNICEF has assisted community schools and non-formal life skills programs through teacher training, curriculum design and provision of learning materials with strong collaboration with NGOs.

(3) Community Level

1) More Access to Primary Education

As described in the needs and demand of education, four communities raised the needs of schools for primary education, and three need secondary school (G8-9). In the light of communities' perception, it is suggested that initially more primary schools (G1-7) be established or upgraded rather than secondary schools in the settlements.

2) Community's involvement and participation in enrollment and school operation

Although there is no reliable data, it is estimated that several thousands of children are out-of-school in each settlement according to the education specialists. Since most of the community organizations have not identified this magnitude in the past, the community first should pay more attention to the present situation of school-aged children and make planning and strategies to attain the 'Education For All' in cooperation with the local government and the Ministry of Education. In addition, it is expected that community initiated, directed and managed initiatives must be stronger in operating both government basic schools and community schools.

Target Setting for the Urban Unplanned Settlements

1. Primary education (G1-7) must be prioritized and encouraged, and its enrollment rates should be increased as much as possible by the year 2005 in all settlements, in line with the National Policy on Education.
2. Community organizations such as RDC, FZR, ZDC, and PTA must identify the situation of school-aged and out-of-school children, and provide necessary guidance and support to ensure education opportunities.
3. The community has to be most involved in implementing and managing the school together with teachers, governments, NGOs and other donor agencies.

4. Special attention must be paid on those socially marginalized or vulnerable groups, such as girls, orphans, HIV/AIDS infected, and disabled children.

4.2.5 Roads and Drainage Systems

(1) Basic Principles

In principle, the road works in UUS will be the rehabilitation and improvement of the existing roads, so the land acquisition for the right-of-way will be unnecessary. The following table and Figure 4.2.1 show the typical cross-section for the rehabilitation and improvement work.

Road Improvement Standard in UUS

Road Classification	Pavement Type	Number of Lane	Road Width(m)*	Drainage Type
Access Road	Surface Dressing Treatment (SD) or Gravel Road	2	9.0m (3.0x2+1.5 x2) 6.0 (SD or Gravel Pave)	Open Drainage (Stone pitching)
Main Road	Gravel Road	1	7.5m (5.5+1.0x2) 5.5(Gravel Pave)	Open Drainage (Stone pitching or Sodding ; Stone Pitching is recommendable)
District Road	Earth Road	1	5.5	Open Drainage (Sodding)

* Number shows a recommendable width, which would be applied in case the right-of-way is not enough.

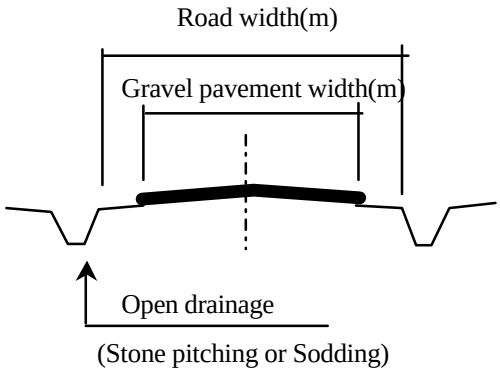


Figure 4.2.1 Typical Cross-section of Road Improvement in UUS

(2) Improvement Effects

The effects of rehabilitation/improvement works are enumerated below.

1) Effects of roads improvement
   - Expansion of service area of the emergency vehicles
   - Encouragement of goods distribution thanks to the saving of transporting time

- Up-lift of time-benefits derived from travelling time reduction
- Encouragement of ceremonial activities in the area

2) Effects of drainage improvement
- Prevention of road surface deterioration
- Prevention of submergence of local housings
- Prevention of malaria/cholera outbreak (Improvement of hygiene conditions)

Those impacts are illustrated in Figure 4.2.2.

(3) Improvement Measures for Roads

As shown in following table, the design period of road varies according to the type of pavement. Concerning the UUS roads (both main and district road), it is targeted that the grading and the gravel paving be undertaken in view of the maintenance work easiness, low level of traffic volume, and the economic reasons. Periodic maintenance activities is a prerequisite even for the roads with gravel paving.

Pavement Design Period

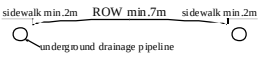
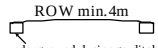
Countermeasures	Design Period	Road Classification	Remarks
Asphalt Concrete Reconstruction	15～20 years	Trunk Road	
Asphalt Concrete Overly	10 years	Trunk Road	
Surface Dressing Treatment	5 years	Access Road	UUS Roads
Gravel Road (Grading and Gravel paving)	3 years	Main road or district Road	UUS Roads
Earth Road (Leveling and embankment)	1 year	Local Road	UUS Roads

(4) Improvement Measures for Drainage Systems

One of the prominent causes of road surface deterioration is lack of a adequate drainage system. An inadequate drainage system will cause the submergence of roads in rain water, and weaken the supporting capacity of base course. It is advisable to install open-ditches on both sides of the carriage-way all along the objective roads. At least the access and main roads in UUS should be provided with such open-ditches. The open-ditches with stone pitching are more preferable due to the ease of maintenance work. Other open-ditches have to be sodded for the reason of slope protection.

A drainage system requires, besides the side-ditch provision, the extension up to an outlet. In the UUS where a drainage outlet exists, the periodic cleaning of the ditches and the outlet have to be undertaken to secure drainage capacity. When the drainage extension is difficult to connect with an outlet, a balancing reservoir or infiltration pits shall be provided.

Table 4.2.1 Target Level of Infrastructures for Living Environmental Improvement

Sector	Standard			remarks
	Japanese	Lusaka/Zambian	Compound	
I Education				
a. Pre-School	1 for 2,000-4,000 pop.	4 for 4,000 pop.		
b. Primary School	1 for 6,000-10,000 pop.	2 for 10,000 pop.	Same as left	
c. Junior High School	1 for 10,000-20,000 pop.	2 for 20,000 pop.		
II Medical/Public Health				
a. Health Center	1 for 2,000-4,000 pop.	1 for 30,000 - 50,000 pop.	Same as left	
b. Hospital	1 for 10,000-20,000 pop.	1 for over 80,000 pop.		
III Community				
a. Community Center	1 for 6,000-10,000 pop.	1 for 10,000 pop.	1 for one UUS	
b. Play Garden	1 for 2,000-4,000 pop.	1.2 ha per 4,000 pop.	1 for one zone	
		(3m2 per capita)		
IV Security				
a. Police Post	1 for 2,000-4,000 pop.	1 for 10,000 pop.	1 for 10,000-20,000 pop.	
V Road and Drainage				
a. Main Road	two way 	Paved Road, Formation width: 24 m (4 lanes), 13.5 m (2 lanes), 12.7m (2 lanes), 10.5m (2 lanes)	Gravel Road, One lane(Width: 5.5 m), Formation width: 7.5 m	
b. District Road	one way 	Paved Road, Formation width: 9.5m (2 lanes), 7.5 m (2 lanes),	Unpaved Road, One lane(Width: 5.5 m)	
c. Drainage	5 years return period	5 years return period	2 years return period	
d. Ditch	pipe & culvert	open	open	
e. Matrial of ditch	Concrete/pipe	Concrete/stone/brick/soil	Brick/soil/sodding	
VI Water Supply				
a. Water supply system	individually piped water	individually piped water	Individual/Public tap/Well	per 200 - 400 pop.
b. Treatment	Chlorination	Chlorination	Chlorination	
c. Unit of supply amount	ave. 280 lpcd	100 - 280 lpcd	20 - 40 lpcd	
d. Redual water hight	5 m	5 m	5 m	at end user
e. Distribution Line	network	network	single pipeline	
VII Sewerage				
a. Personal Toilet	Flush	Flush/septic tank	Soak Latrine/VIP Laterine	
b. Public Toilet	Flush	Flush/septic tank	Flush/Soak Latrine	
c. Collection system	Separate/combined	Separate/on-site	On-site without treatment	
d. Disposal system	Centralized public	Centralized public	Individual	
VIII Solid Waste				
a. Domestic Waste	Public collection & disposal	Public collection & disposal	Compound collection	
Industrial Waste	Pollutant Pay's Principle	Public collection & disposal	-	
Solid waste generation	1.0 kgpcd	0.5 kgpcd	0.5 kgpcd	
b. Collection System	Separate & Recycle	LCC (charged)	RDC (charged)	
c. Disposal system	Sanitary landfill	Damping & firing	Damping & firing	

Resource: Lusaka/Zambian standard data is from Lusaka City , peri-urban section.
Compound standard is assumed by JICA Study Team.

Figure 4.2.2 Impacts by Road Improvement in UUS

4.3 Demand Projection of Infrastructures

4.3.1 Water Supply

Unit water consumption for water supply planning is recommended by LWSC as shown in Table 4.3.1. LWSC classified unit water consumption for residential consumers to four categories, Peri-urban/Rural with 40 lpcd, Low Income with 100 lpcd, Medium Income with 150 lpcd and High Income with 280 lpcd. However, almost residents in the city are unsatisfied with the existing water supply on account of poor quality and low pressure as described in Chapter 2. The present unit water consumption per capita is summarized below.

- for domestic user (average): 85 lpcd (by LWSC)
- for individual connection: 100 lpcd (by LWSC)
- for public tap: 20 lpcd (by LWSC)
- for public tap (Chainda): 20 lpcd (by World Vision)
- for public tap (George): 35 lpcd (target year: 2003 by JICA)

Future unit water consumption per capita is proposed as 20 lpcd for the present, 30 lpcd for the year 2005 and 40 lpcd for the year 2010, considering the present conditions and information from LWSC. Based on the forecasted population and unit water consumption, water demand projection of the eight unplanned urban settlements is shown in Table 4.3.2.

According to the strategic plan 1999-2003 of LWSC, the target unaccounted for water (UFW) in the future is 15%. Water requirement, therefore, shall be estimated assuming the ratio of water losses is 15% even in the new constructed area. Water requirement to the eight unplanned urban area is summarized for every 5 years below.

Future Water Demand Projection

(Unit: m^3/d)

	Present (1999)	2005	2010
Bauleni	1,040	1,360	1,680
Chainda	390	530	670
Chazanga	670	1,060	1,560
Chibolya	580	760	970
Freedom	210	230	250
Kalikiliki	180	280	370
Ng'ombe	690	1,100	1,630
Old Kanyama	1310	1,770	2,280

Source: JST

4.3.2 Sewerage and Sanitary

Wastewater generation will be estimated based on the water consumption projection as stated above. LWSC adopts 80% of domestic water consumption for domestic wastewater generation. At the proposed settlements, on-site sanitation facilities are used in general for treatment of night soil only and gray water is directly discharged to drains. Unit amount of night soil per capita is assumed as 1.5 lpcd which is the normal value of unit night soil generation in the case of pit latrine.

Domestic wastewater and night soil generations of the 8 settlements are estimated as shown in Table 4.3.3. In case that individual toilets are upgraded from pit latrine to water closet, night soil generation is estimated as below.

Projection of Waste Water Volume in 2005, 2010

(Unit: m^3/d)

	Present (1999)	2005	2010
Bauleni	68	89	110
Chainda	26	35	44
Chazanga	44	69	102
Chibolya	53	69	89
Freedom	14	15	17
Kalikiliki	12	18	24
Ng'ombe	45	72	107
Old Kanyama	86	116	149

Source: JST

4.3.3 Garbage Collection

Domestic waste generation rate for income levels is identified by LCC to be 0.8 kgpcd for High class, 0.5 kgpcd for Medium class and 0.3 kgpcd for Low class. Average domestic waste generation rate is found to be 0.5 kgpcd by the Solid Waste Management Master Plan Project Phase I prepared by CIDA.

Domestic waste generation of the 8 settlements is preliminary estimated as shown in Table 4.3.4 on the supposition that generation rate at each 5 years is 0.3 kgpcd in 1999, 0.5 kgpcd in 2005 and 0.8 kgpcd in 2010. Since the average density of domestic solid waste is 384 kg/m^3 according to the plan, volume of domestic solid waste is summarized as follows.

Projection of Garbage Volume in 2005, 2010

(Unit: m^3/d)

	Present (1999)	2005	2010
Bauleni	35	46	57
Chainda	13	18	23
Chazanga	23	36	53
Chibolya	20	26	33
Freedom	7	8	9
Kalikiliki	6	9	13
Ng'ombe	23	38	55
Old Kanyama	45	60	77

Note: Average density is assumed 384 kg/m^3.

4.3.4 Road and Drainage

The roads in UUS have small traffic volume, less than 100 pcu/day presently.

Assuming that car ownership ratio in UUS is 1 vehicle/100 households in 1999 and the ratio will be increase 5% per year, traffic volume in 2010 is estimated at less than 300pcu/day as shown below.

If the traffic volume becomes more than 300 pcu/day, the pavement structure should be upgraded from gravel paving to surface treatment pavement.

Estimate of Future Traffic Volume in UUS

(Unit: pcu/day)

Name of UUS	1999			2005			2010			Annual Growth Rate
	Popu-la tion	No. of house-h olds	No. of cars *1	Popu-la tion	No. of house-h olds	No. of cars *2	Popu-la tion	No. of house-h olds	No. of cars *3	
Bauleni	45,000	4,500	45	59,000	5,900	74	73,000	7,300	122	4.5%
Chainda	17,000	1,700	17	23,000	2,300	29	29,000	2,900	48	4.9%
Chazanga	29,000	2,900	29	46,000	4,600	58	68,000	6,800	113	8.1%
Chibolya	25,000	2,500	25	46,000	4,600	58	59,000	5,900	98	4.8%
Freedom	9,000	900	9	10,000	1,000	13	11,000	1,100	18	2.0%
Kalikiliki	8,000	800	8	12,000	1,200	15	16,000	1,600	27	6.7%
Ng'ombe	30,000	3,000	30	48,000	4,800	60	71,000	7,100	118	8.1%
Old Kanyama	57,000	5,700	57	77,000	7,700	96	99,000	9,900	165	5.1%

Remark: *1 vehicle ownership ratio in UUS per households in 1999 : 1 car per 100 households
*2 vehicle ownership ratio in UUS per households in 2005 : 1 car per 80 households
*3 vehicle ownership ratio UUS per households in 2010 : 1 car per 60 households

Table 4.3.1 Unit Consumption for Design in Zambia

Consumer Category	Unit Consumption
1 Residential	
1.1 Peri-urban/Rural Residential	40 lpcd
1.2 Low Income Residential	100 lpcd
1.3 Medium Income Residential	150 lpcd
1.4 High Income Residential	280 lpcd
2 Educational Institutions	
2.1 University College	120 lpcd
2.2 Secondary School (Boarders)	100 lpcd
2.3 Secondary School (Non-Boarders)	30 lpcd
2.4 Primary School with WC	25 lpcd
2.5 Primary School with Latrines	15 lpcd
3 Health Institutions	
3.1 Urban Hospital	365 l/bed/day + 10 l/out-patient/day
3.2 Rural Hospital	315 l/bed/day + 10 l/out-patient/day
3.3 Clinic with Beds	160 l/bed/day + 10 l/patient/day
3.4 Clinic without Beds	10 l/patient/day
4 Hotels	
4.1 High Class Hotel	550 l/bed/day
4.2 Medium Class Hotel	250 l/bed/day
4.3 Low Class Hotel	100 l/bed/day
5 Restaurants and Recreational Facilities	
5.1 Restaurant	100 l/seat/day
5.2 Recreational Club	50 l/member/day
6 Industrial, Commercial and Administrative	
6.1 Industrial (Light)	30,000 l/ha/day
6.2 Industrial (Heavy)	90,000 l/ha/day
6.3 Commercial Area	30,000 l/ha/day
6.4 Administration Offices	30 l/member/day
6.5 Fire Fighting	1,500 l/min for 4 hours/day
6.6 Public Convenience	5 to 10 l/WC/day

(Source: LWSC)

Table 4.3.2 Water Demand Projection of 8 Unplanned Urban Settlements

	Area (ha)	1999			2005			2010		
		Population	Water Demand (m^3/d)	Water Supply (m^3/d)	Population	Water Demand (m^3/d)	Water Supply (m^3/d)	Population	Water Demand (m^3/d)	Water Supply (m^3/d)
1 Bauleni	128.16	45,000	900	1,035	59,000	1,180	1,357	73,000	1,460	1,679
2 Chainda	63.00	17,000	340	391	23,000	460	529	29,000	580	667
3 Chazanga	30.41	29,000	580	667	46,000	920	1,058	68,000	1,360	1,564
4 Chiboliya	46.00	25,000	500	575	33,000	660	759	42,000	840	966
5 Freedom	43.00	9,000	180	207	10,000	200	230	11,000	220	253
6 Kalikiliki	60.85	8,000	160	184	12,000	240	276	16,000	320	368
7 N'gombe	91.26	30,000	600	690	48,000	960	1,104	71,000	1,420	1,633
8 Old Kanyama	500.00	57,000	1,140	1,311	77,000	1,540	1,771	99,000	1,980	2,277

(Remarks) Unit water supply is determined below:
- 20 lcpd for the year of 1999
- 30 lcpd for the year of 2005
- 40 lcpd for the year of 2010

Table 4.3.3 Domestic Wastewater and Night Soil Generation of 8 Unplanned Urban Settlements

	Area	1999			2005			2010		
	(ha)	Population	Wastewater (m^3/d)	Night Soil (m^3/d)	Population	Wastewater (m^3/d)	Night Soil (m^3/d)	Population	Wastewater (m^3/d)	Night Soil (m^3/d)
1 Bauleni	128.16	45,000	720	68	59,000	1,416	89	73,000	2,336	110
2 Chainda	63.00	17,000	272	26	23,000	552	35	29,000	928	44
3 Chazanga	30.41	29,000	464	44	46,000	1,104	69	68,000	2,176	102
4 Chiboliya	46.00	25,000	400	38	33,000	792	50	42,000	1,344	63
5 Freedom	43.00	9,000	144	14	10,000	240	15	11,000	352	17
6 Kalikiliki	60.85	8,000	128	12	12,000	288	18	16,000	512	24
7 N'gombe	91.26	30,000	480	45	48,000	1,152	72	71,000	2,272	107
8 Old Kanyama	500.00	57,000	912	86	77,000	1,848	116	99,000	3,168	149

(Remarks) Unit domestic wastewater generation is estimated by 80% of unit water supply.
Unit amount of night soil is assumed as 1.5 lpcd.

Table 4.3.4 Solid Waste Generation of 8 Unplanned Urban Settlements

	Area (ha)	1999			2005			2010		
		Population	Solid Waste (kg/d)	Solid Waste (m^3/d)	Population	Solid Waste (kg/d)	Solid Waste (m^3/d)	Population	Solid Waste (kg/d)	Solid Waste (m^3/d)
1 Bauleni	128.16	45,000	13,500	35	59,000	17,700	46	73,000	21,900	57
2 Chainda	63.00	17,000	5,100	13	23,000	6,900	18	29,000	8,700	23
3 Chazanga	30.41	29,000	8,700	23	46,000	13,800	36	68,000	20,400	53
4 Chiboliya	46.00	25,000	7,500	20	33,000	9,900	26	42,000	12,600	33
5 Freedom	43.00	9,000	2,700	7	10,000	3,000	8	11,000	3,300	9
6 Kalikiliki	60.85	8,000	2,400	6	12,000	3,600	9	16,000	4,800	13
7 N'gombe	91.26	30,000	9,000	23	48,000	14,400	38	71,000	21,300	55
8 Old Kanyama	500.00	57,000	17,100	45	77,000	23,100	60	99,000	29,700	77

(Remarks) Solid waste generation rate is determined below:
- 0.3 kgpcd for the year of 1999
- 0.5 kgpcd for the year of 2005
- 0.8 kgpcd for the year of 2010

4.4 Organizational Framework of Different Stakeholders

Implementation of environmental improvements in unplanned urban settlements with community participation approach involves various stakeholders. They include: LCC; other government agencies such as Ministry of Health, Ministry of Education, LWSC; NGO; donors; and the community prominently represented by RDC, CBO among others. There are several key factors that need to be considered in order to make the participatory approach conceivable.

According to the second National Stakeholders Forum held in Lusaka in 1998, each of the stakeholders stated the contribution they can make to the PoCMUS program. In consideration of the proposal in the Forum, as well as the PCM Workshop, the following scenario may be proposed as in the table below.

Potential Roles of Various Stakeholders

Stakeholders	Possible Roles
MLGH	• Resource mobilization • Agreements between donors and ministry • Capacity building/training • Policy formulation and guidelines • Conflict management • Monitoring • Public awareness • Promotion
LCC	• Human resources • Technical advice (legal, financial etc) • Training • Infrastructure • Building and land • Office equipment, furniture and fittings • Coordination role (administration) • Administrative costs such as electricity bills, salary to section council staff
Donor	• Provide funds for the program • Enhance coordination with other donors • Monitoring and evaluation to ensure that money is utilized accordingly • Contribute to policy in the development of the urban community sector
NGO	• Various trainings such as TOT (gender, enterprise development, peer education, etc), leadership, proposal writing, among others • Entrepreneurship development • Sensitization and mobilization • Consultation on issues • Support formation of CBO • Monitoring and evaluation of activities • Networking • Research
Community	• Time • Labor • Skills • Knowledge • Self-sacrifice • Sensitization and mobilization • Decision-making • Money (to a certain extent) • Monitoring and evaluation • Maintenance
Others (such as MOE, MOH, LWSC, ZESCO)	• Technical expertise • Funding

At the community level, RDC takes a leading role with support from other stakeholders, such as LCC, CBO, and NGO. The roles of each stakeholder are as described in the previous chapter.

Caution should be taken when promoting the formation of democratic community structures so that these are truly identified with the community rather than the donor or council. Failure to do so might diminish the possibility of long-term sustainability of such community organizations.

As regards to the interventions in the area of environmental health, the following specific institutions at community level are envisaged to be involved.

Institutions with Environmental Health Roles in Unplanned Urban Settlements

Organization	Advantages	Disadvantages	Proposed roles
RDC-HC	* Attached to RDC * Voluntary, no implied cost * Part of communities	* Capacity very small (not received comprehensive training) * lack of incentives	* Coordinate community demands relating to health, sanitation and make neighborhood plans, monitoring
NHC	* Voluntary, no implied cost * Part of communities		
Health Centers	* Permanent, close links to communities * provide workshop/outreach for mothers	* Capacity(fund, human resources) very small for large area * Staffs are not well trained in necessary skills	* Main channel for communication with community * Monitoring and evaluating changes
Local NGOs	* Voluntary basis * Not bureaucratic * Close to the communities	* Only temporarily in area * May be poor management * Weak at soliciting funds * No control	* Training and working alongside to support RDC, NHC to support them in community facilitation & implementation
Churches	* Permanent and respected		* promoting good practice and value of cleanliness
Schools	* Permanent and structured organization * Great influence on children's behavior * Potential for demonstration purposes	* Limited in skills, technical knowledge, especially * Lack of IEC materials * government does not acknowledge linking role to community	* Teaching and learning with and from pupils * Acting as good example and demonstration * Channeling information to communities

More and more flexibility is required of donors in order to support community-initiated projects. If a donor is rigid in the process of project approval and project implementation, it is not feasible to initiate a project with the participatory approach.

The community is impatient when it comes to seeing the results. If the community is flooded with researchers and surveys without any tangible results seen within a

certain time frame, the momentum can easily be lost and the community tends to lose confidence.

During the course of project implementation, unforeseen incidents happen and implementation gets delayed. The community often does not accept delay, regardless of the causes. The community easily gets disappointed and discouraged when they do not see what they have expected and in the way they have expected.

If a donor recognizes the value of the participatory approach, it is important that they are prepared to make flexible responses in a timely manner. Collaboration and coordination among donors is another essential element so that donors support and supplement the efforts of each other.

4.5 Capacities and Training Needs of Stakeholders

4.5.1 Capacity and Training Needs at Higher Institutional Level

The capacity of LCC was diagnosed to be very insufficient for the development and administration of social services in UUS. Neither manpower nor budget is enough for the workable performance for the development and administration of social services.

Since quantitative enhancement of manpower and finance resource enlargement is rather difficult due to the present economic situation, qualitative improvement as described below is most important.

- Restructuring and strengthening of departments in LCC in charge
- Training of talented officers
- Dispatch trained officers to UUS for coordination and administration of social service development
- Equip minimum devices necessary for work

To cope with the development and improvement of social services in UUS, organization enhancement and improvement shall be necessary. The following can be proposed for initial enhancement and improvement.

- Opening of one-stop service: a reception department shall be decided for the service of community and communication with NGO and donors.
- Systematic cooperation: system for mutual cooperation between reception department and implementing department such as engineering Department, LWSC, etc.

- In the long run, Peri-Urban section will become an independent organization, which will be responsible for the entire works of the social service development in UUS.

As for the training of talented officers, the following will be conceived tentatively.

- Learning of decision-making method in participatory development such as adjustment of community needs by realistic development, appropriate participation by community
- Participation in the decision-making work: on the job training
- Learning of the training method for the community concerning operation and maintenance method
- Participation in the training on the community concerning operation and maintenance method as the job training
- Learning of implementation method of social service development such as decision of appropriate planning and design, selection of contractors for construction, etc.
- Learning of outsource reaching method such as application method for financial and technical assistance from donors

4.5.2 Capacity and Training Needs of Community

The capacity of a community was analyzed in Chapter 3. With a community structure already in place, RDC will facilitate implementation of development activities. Nevertheless, there is a need to strengthen the capacity of RDC.

Formation of a sub-committee under RDC, linked with a specific project and/or sector is deemed to facilitate smooth implementation and ensure sustainability of infrastructure and social services. In fact, water committees, neighborhood watch committees, and health committees are found in many settlements. When such sub-committees do not yet exist, or even when they already exist, their organizational set-up and terms of reference will need to be reviewed for enhanced effectiveness.

There is a considerable debate about the meaning of participation. One important distinction is between participation as an objective in which case it takes precedence over other objectives, and participation as a means to be employed in pursuit of other objectives. In the former case, support will be directed at empowering and building capacity of residents to direct their own activities towards developing and managing community-based infrastructure. In the latter case, the objective will be development of infrastructure system, and participation

will be employed to make these services more efficient and effective. The former can encompass the latter, but the reverse is not the case.

What is expected of the community within the framework of the pilot projects is two-fold. On the one hand, the community represented by RDC and various sub-committees is an efficient and effective partner for development of infrastructure and other social services. On the other hand, the community is expected to participate in decision-making such as project identification, development of action plans, implementation, operation & maintenance, monitoring and evaluation. It is envisaged that RDC be strengthened through participation in the process of project implementation, especially participation in decision-making.

Clearly, however, it is beyond the capacity of most of RDC to take over the roles of a local authority and to shoulder all the responsibilities on their own. Considering the organizational as well as financial status of any settlement, it is not feasible to expect RDC to undertake any project of a big scale. It is hence advised that any infrastructure development with community participation be undertaken in close cooperation with a local authority. Furthermore, a mechanism should be developed to enhance economic capacity of the community. Support to strengthen economic capacity of the community at large and specifically community organizations such as RDC must be conceived as an integral element of capacity building of the community, if community management of development projects and sustainability of infrastructure and social services are to be ensured.

An average settlement possesses useful skills necessary for environmental improvements of the settlement. These skills include carpentry, masonry, blacksmith, plumbing, welding, building, brick making, electronics, and so on. Although busy looking for food for the day, most people are willing to contribute time, labor and even money, when they perceive the net benefits. With certain skill training specifically related to the upcoming activities, the community can do its best in O&M of the infrastructure. The following is a preliminary list of training identified for RDC, its sub-committees, and CBO.

- Project management (including planning, implementation, monitoring and evaluation, reporting)
- Leadership skills (including decision-making, effective communication and networking)
- Financial management (including basic accounting, O&M of infrastructure and social services, and income generation for RDC)

CHAPTER 5 PILOT PROJECTS IN THREE UNPLANNED URBAN SETTLEMENTS

Pilot projects were carried out to check the practicability and viability of social service development in UUS. Participatory method was taken in the pilot project planning and implementation to assure the sustainability of the development projects.

The pilot project was commenced from the selection of target UUS suitable for the project followed by subsequent steps as shown below.

- Plan making of pilot project
- Baseline survey on selected UUS
- Implementation of pilot project
- Training of community as well as LCC staff
- Evaluation of pilot project
- After care of pilot project

5.1 Selection of Three UUSs

5.1.1 Criteria

The following three criteria are assumed for selection of UUS.

① Capacity of community participation
② Presence and capacity of LCC organization
③ Presence of other donor and possibility of coordination

The capacity of community participation are evaluated by 1) status of community organization, and 2) willingness of commune.

(1) Status of Community Organization

Existence of RDC/FZR/ZDC seems pre-requisite. If RDC/FZR/ZDC is not yet organized at the start of our pilot project, it takes too much time to organize the community. There is also a tendency for the community to identify such RDC as being owned by the donor, and hence the community's sense of ownership of RDC/FZR/ZDC will not be strong.

It is generally said that RDCs with the following qualities are in a better position in terms of their capacity.

① Existing RDC structure should be in place.
② RDC should not have political problems / interference.

(2) Willingness of Community People to Participate

It is generally said that the willingness of community participation can be judged by ① potential capacity for project implementation, ② capacity for infrastructure capacity, ③ gender awareness of community.

(3) Capacity of LCC to Support the Community

LCC'S site officers with the supervisory support of LCC community development officers (CDOs) are to mobilize / support the RDC/FZR/ZDC and the community. At present, however, this is not effectively undertaken due to lack of support (no mobility, no activity, no systematic training, etc) to site officers as well as CDOs.

(4) Presence of Other Donor

Duplication by other donors such as SLP, CARE, World Vision, etc. should be avoided. However, if priority projects are shared, then the donors should collaborate on them to provide an integrated social service development in UUS. The presence of other donors will ensure sustainability in terms of capacity building (such as training, fundraising, etc).

5.1.2 Results of Selection

Scores evaluated by the status of community organization and willingness of community participation are presented below.

UUS	Status of Community Organization		Willingness of Community			
			Potential Capacities in Implementation of Projects	Infrastructure Maintenance	Gender Awareness	Total
Bauleni	√√√√	4	√√√√	√√√	√√√	10
Chainda	√√√√	4	√√√√	√√√√	√√√	11
Chazanga	√√	2	√√	√	√√√√	7
Chibolya	√√√	4	√√√	√√	√√√√	9
Freedom	√	1	√	√	√	3
Kalikiliki	√√√	3	√√√√	√√	√√	8
Ng'ombe	√√√√√	5	√√√√	√√√√	√√√√√	14
Kanyama	√√√	3	√√√√	√√√√	√√√√√	12

Note
Highest = 5 ticks
Average = 3 ticks
Lowest = 1 tick

Status of LCC organization is evaluated as shown below and Bauleni, Chainda, Chibolya, Ng'ombe, and Old Kanyama are selected as priority sites for the pilot projects in consideration of those conditions and selection criteria described.

UUS	Status of LCC organization	UUS	Status of LCC organization
Bauleni	◎	Freedom	△
Chainda	◎	Kalikiliki	△
Chazanga	△	Ng'ombe	◎
Chibolya	○	Old Kanyama	○

Other disadvantaged sites are given the following evaluations.

Kalikiliki: There are disadvantages in potential capacity of community participation and political interference.

Freedom: Community organization is not settled though an intermediate committee is organized so far. Capacity for community participation is premature to assess and political interference is anticipated.

Chazanga: Community organization is not settled and the capacity for community participation is immature. CARE is working on community organization for PROSPECT.

The presence of donors by each UUS is summarized below.

World vision and CARE International are predominantly working in Chainda and Old Kanyama respectively. World Vision closely cooperated to supply enough water in Chainda and CARE PROSPECT is planning to develop water supply service covering the whole area of Old Kanyama. Thus these two UUSs are excluded from the priority target of the selection and Bauleni, Chibolya, and Ng'ombe are consequently selected as priority sites for the pilot study.

Table 5.1.1 shows the results of selection with needs assessment by UUS.

Table 5.1.1 Evaluation on the 8 Unplanned Urban Settlements

Name of UUS	Characteristics of UUS	Community Participation		LCC Organization in UUS	Presence of Major Donors (in parenthesis: completed)	Needs for Social Services by Priority		Selection for Pilot Study
		Status of community organization	Potential capacities in implementation			Existing data/information	Latest interview to RDC	
Bauleni	• 45,000 population • Country side location • Large dwelling plot • Upgraded UUS	◎	◎	◎	1. HUZA 2. SWAZ 3. SHEFA 4. (PUSH)	1. Water 2. Garbage 3. Maternity clinic 4. Road 5. Police office	1. Water 2. Maternity clinic 3. Income generation 4. Garbage 5. Security	■■
Chainda	• 17,000 population • Country side location • Large dwelling plot	◎	◎	◎	1. World vision 2. PUSH	1. Poverty 2. School 3. Security 4. Unemployment 5. Clinic (lack of devices)	1. School 2. Security 3. Maternity clinic 4. Unemployment 5. Poor housing	
Chazanga	• 29,000 population • Country side location • Large dwelling plot • Next to Cipata	×	○	△	PROSPECT	1. Water 2. School 3. Road 4. Clinic 5. Police post	1. Security 2. Basic School 3. Road 4. Water 5. Illiteracy	
Chibolya	• 25,000 population • Central city location • Congested dwellings • Flat land • Rocky geology	◎	○	○	1. HUZA 2. ZOCS 3. CARE/PROSPECT in 2001 4. SLP	1. Water 2. Security 3. Local clinic 4. Garbage 5. Road & drainage	1. Water 2. Clinic 3. Security 4. Secondary school 5. Road & Drainage 6. Garbage	■■
Freedom	• 9,000 population • Facing Great North Road • Congested dwellings • Hilly land	×	×	△	1. HUZA	1. Water 2. Health facility 3. Garbage 4. Poor sanitation 5. School	1. Water 2. Clinic 3. Road & Drainage 4. Garbage 5. Poor housing	
Kalikiliki	• 8,000 population • Congested dwellings • Hilly land	○	○	△	1. SLP 2. (PUSH)	1. Water 2. Clinic 3. School 4. Road 5. Police	1. Clinic 2. School 3. Road & drainage 4. Security 5. Pubic transport	
Ng'ombe	• 30,000 population • Congested dwelling • Rather undulated land	◎	◎	◎	1. SLP 2. HUZA 3. SCDP	1. Water 2. Road 3. Garbage 4. Poverty 5. Education	1. Water 2. RDC Office 3. Road 4. Market improvement 5. Police post/1 6. Garbage	■■
Old Kanyama	• 57,000 population • Upgraded UUS • Central city location • Congested dwellings • Flat land • Rocky geology	○	◎	○	1.CARE -PROSPECT -PULSE 2. (HUZA)	1. Water 2. Security 3. Poverty 4. Clinic 5. Road	1. Water 2. Security 3. Income generation 4. Road 5. Clinic	

Legend of community participation and LCC organization: ◎excellent、○good、×bad Legend of Selection: ■■Priority selection

Remark /1 Police station in Ng'ombe is under construction.

Abbreviation: LCC: Lusaka City Council UUS: Unplanned Urban Settlement RDC: Resident Development Committee
SLP: Sustainable Lusaka Program SCDP: Sustainable Community Development Program SHEFA: Shelter for All
HUZA: Human Settlement of Zambia ZOCS: Zambia Open Community Schools SWAZ: Society for Women and Aids in Zambia

5.2 Selection of Pilot Projects in Three UUSs

Bauleni, Chibolya, and Ng'ombe are selected as the sites for pilot projects in consideration of community organization capacity and presence of LCC as well as other donors' support.

For these three UUSs, several kinds of projects were conceived for the pilot scheme based on the results of needs assessment as well as the JST experts' suggestions as shown below.

Selected Pilot Projects

	Bauleni	Chibolya	Ng'ombe
Needs assessment by RDC	1. Water 2. Maternity clinic 3. Income generation 4. Garbage 5. Security	1. Water 2. Clinic 3. Security 4. Secondary school 5. Road & Drainage	1. Water 2. RDC Office 3. Road 4. Market improvement 5. Police post
Needs from relevant organizations		• Community school	
Idea of JICA Study Team	• Health and sanitary education program • Home VIP latrine development	• Health and sanitary education program • VIP latrine development	

Note: Items in block represent selected pilot projects.

Principles for the selection of the pilot studies were:

- To carry out various kind of pilot projects order to test the necessity and effectiveness for integrated social services,
- Not only the results of needs assessment of RDC, but also needs of relevant organizations and the assessment by JST would be referred in to the decision of pilot projects,
- Results of development projects done by the other donors/NGOs would be taken into consideration for the design of the pilot projects, and
- Duplication with another development projects being carried out by the other donors/NGOs would be avoided.

Pilot projects are chosen with the aim of examining the following items, taking consideration of the relationship between the pilot projects and existing development projects carried out by other donors/NGOs.

Background for Selection of the Pilot Projects in addition to Existing Projects of Other Donors

Pilot Projects	Background for Selection of Pilot Projects
Water supply system improvement in Bauleni and Chibolya	• Sustainability of the project could be evaluated on the viewpoint of the RDC participation from the beginning of the projects. • Role and importance of LCC participation could be discussed and verified in the course of works. • Comparison study between Bauleni independent development and Chibolya JV development with CARE Prospect could be made.
Road improvement in Ng'ombe	• Food for Work program initiated by PUSH in several compounds in Lusaka is contributing to the road improvement by the community participation to some extent. • However, completion degree and maintenance work are insufficient for the trunk road of the compound due to the low level of technical skill in Food for Work program. Therefore, development method for the trunk road with much traffic should be studied under the community participation.
Hygiene Education and VIP Latrine development in Bauleni and Chibolya	• Effectiveness and necessity of hygiene education attached with the water supply improvement project are verified in course of the Primary Health Care Project in the George compound by the Japanese aid. In this regard, the health education in Bauleni and Chibolya were planned in line with the water facility development. • In addition to the health and hygiene education, health educations in the school as well as VIP latrine development were conceived.
Community School in Chibolya	• While a lot of international and local NGOs are working for community school development/management, RDC managed community school are limited. Considering the RDC is officially authorised community organization of the compound and is able to play an important role of community based education development, the project supports that promotion of RDC basis community school is significant. • Thus, a community school pilot project should be developed in Chibolya compound in order to clarify development method, constraints to overcome, etc.
Income Generation in Bauleni	• Many organizations are carrying out income generating project in Zambia. Some are successful and others are not. However, not so many organizations have made in-depth analysis of the operation and results. The pilot income generating project in Bauleni was planned to analyze detailed reasons and background of the success or failure.

5.3 Plan and Implementation of Pilot Projects

5.3.1 Water Supply System Improvement Project in Bauleni

(1) Implementation Concept

Based on the results of discussions with LCC and RDC of Bauleni, the following concepts and policies are determined for implementation of the pilot project for the development of water supply systems at Bauleni:

- Target year of infrastructure improvement is 2000,
- Based on the existing boundary and area of each zone at settlements,
- Based on the existing land use, population and population density,
- Community participation approach,
- RDC responsible for community mobilization,
- Consideration of future development plans by POCMUS and HUZA, and
- Executing of design and construction works by a local contractor under supervision of the JICA Study Team (JST) and LCC.

(2) Plan Framework

The development plan of the projects was formulated according to the following framework:

Plan Framework

Description	Bauleni
Served Area (Zones)	Zones 8 and 13
Served Population	4,000
Number of Households	400
Designed Unit Water Consumption (lpcd)	20
Water Demand (m^3/d)	80
Water Source	Deep Borehole
Design Water Yield at Borehole (l/sec)	10
Number of Public Tap Stands (unit)	10
Minimum Residual Water Height (m) at Public Tap	5
Served Population per a Public Tap Stand	400
Length of Distribution Pipeline (m)	1,000

Layout plan for the development of water supply systems in Bauleni is illustrated in Figure 5.3.2. Served areas by the project consist of the parts of Zones 8 and 13.

Main water supply facilities to be constructed are summarized below:

Main Water Supply Facilities

Description (unit)	Bauleni
Borehole: 1 unit (Depth: m) *	60
Submersible pump: 1 set (capacity: l/minute)	600
Lift pipe: GSP (m)	45
Operation room with electric power (unit)	1
Boundary wall with height of 2m (Length: m)	20
Transmission pipe: GSP (m)	500
Reservoir/elevated tank: 1 unit (m^3)	60
Distribution pipeline: PVC (Length: m)	1,000
Number of Public Tap Stands (unit)	10

* A new borehole was developed because the existing borehole was damaged

(3) Implementation

Design works were carried from December 1999 to March 2000. At the design stage, the residents were interested to contribute to the siting of borehole, public tap stands, elevated tank and pipelines route. During the design stage, residents participated in discussions about community participation to be conducted at the construction stage.

The construction of the pilot project was implemented as shown in Figure 5.3.3. The project was completed on September 27, 2000. Some construction works, such as backfill and wall construction, were carried out by residents. Almost all works were done according to the plan under supervision of JST. Actual serviced areas consists of Zones 7, 8 and 13 since a tap location was changed from Zone 13 to Zone 7 at residents' request. Results of the implementation of the pilot project are summarized below comparing with the plan.

Implementation Result

Framework	Plan	Result
Served area (Zones)	2 (Zones 8 & 13)	3 (Zones 7, 8 & 13)
Number of registered households	400	294
Number of public tap stands	10	10
Production/consumption (m^3/d)	85/80	61/59

(4) Community Participation in Construction Works

Resident Development Committees (RDCs) are a relatively new structure developed by the Lusaka City Council (LCC) with the support of NGOs. In the

first and second republics, the main entry point for community development was through political party (UNIP) committees, but when a multiparty system was implemented, the need for a non-partisan body was recognized. RDCs are established after a settlement has been formally recognized by the Ministry of Local Government and Housing (MLGH). LCC community development officers oversee the process, which can take some time depending on the size of the settlement, number of zones and other factors. Leaders are first elected at the Zone Development Committee (ZDC) and Forum of Zone Representatives (FZR) levels, and then RDC officers are elected from the FZR for a term of 3 years. In many settlements, many of those elected drop out after assuming the role. In Bauleni, for instance, only five of the ten elected members have remained active. RDCs often have subcommittees, which oversee development projects in specific sectors such as health, education and solid waste.

Community participation in the implementation of Bauleni water pilot project is summarized below.

Community Role in Water Project Construction

Item	Time	Role of community
Identification of pipe routes	2 days	Subcontractor consulted community LWSC provided technical support
Borehole construction	1 week	None
Tap stand design and siting	1 month	Subcontractor designed Community identified appropriate locations
Tap stand construction	1 month	15 male general laborers employed
Tank construction	3 weeks	None
Trench digging	3 weeks	25 male general laborers employed
Pipe laying	2.5 weeks	None
Backfilling of trenches	2.5 weeks	Labor provided on volunteer basis (est.1000 men and women participated)
Construction of pump house and wall fence	3 months	6-7 bricklayers employed
Locking system installed	1 day	RDC designed and purchased clamps RDC purchased locks (with funds from initial user fees)
Flow meters installed	1 day	None
Automatic float switch installed	1 day	None

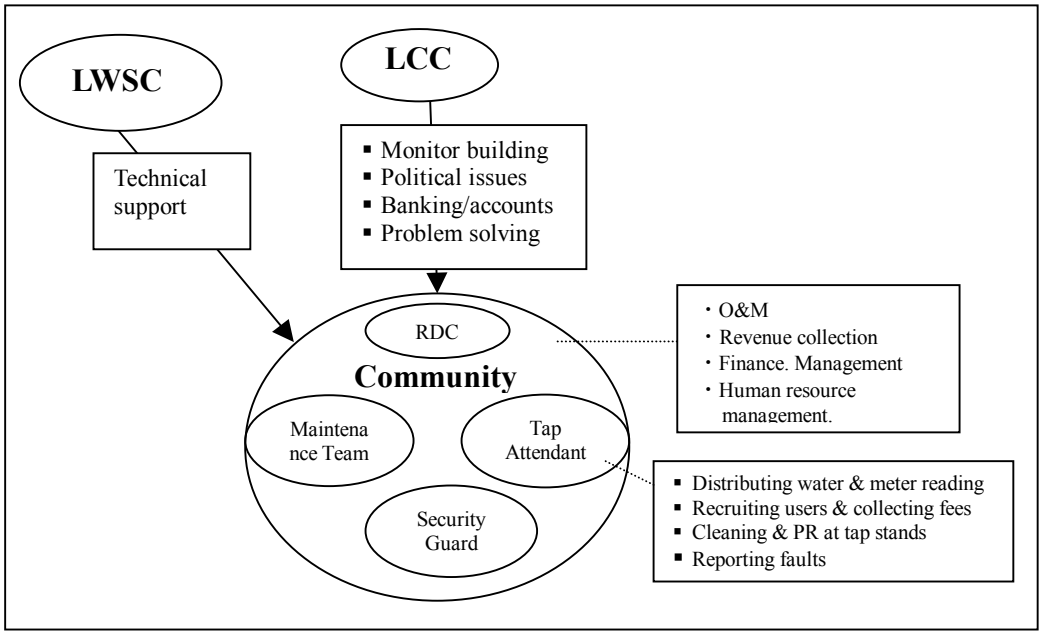
(5) Training Provided under Project

Community training under the Bauleni water pilot project is shown below.

Type (provider)	Days	Participants	Purpose	Contents
Community water management training (ADaT)	5	RDC & Tap Attendants (20)	Provide community with financial and management skills to run new water system	Community participation Team and team-building skills Conflict resolution Project planning and management Project proposal writing Resource mobilisation Financial management Levying and levying methods
Water system operation and maintenance training (LWSC)	3	RDC & TAs (13)	Provide community with technical skills for O&M of new water system	Water production Water distribution Water quality Plumbing Safety
Field trip to other Lusaka settlements to observe water system management	1	RDC & TAs (12)	Provide community with opportunity to observe the O&M systems in other settlements and discuss details with managers	Kamanga—Irish Aid project Ng'ombe—Rotary International and LWSC Chipata—CARE Prospect George—LWSC

(6) Water System Management Structure

The following structure is being put into place for management of the Bauleni water pilot project. The stakeholders are represented in the ovals, with their main roles and responsibilities shown in the rectangles. Arrows indicate support provided and in the case of LWSC and RDC, there is a reciprocal relationship with LWSC providing technical support to Bauleni RDC and the RDC working for revenue collection and operation of their water supply system. As is shown, the RDC is directly managing the scheme on a day-to-day basis, while receiving some outside support.



Notes:

- RDC supports LWSC water system with revenue collection and operation
- LWSC provides technical support to Bauleni RDC
- O&M includes pump operation, HTH water treatment and meter reading
- Maintenance team not yet established
- Night security guard paid monthly wage from users fees
- Tap attendants paid monthly wage from user fees
- RDC directly manages scheme including TAs in lieu of water committee

Figure 5.3.1 Water System Management Structure

(7) Cost Recovery System

a) Membership fees: Kwacha 5,000/year or 500/month

These fees will be collected as of January 2001, and the plan is to keep the funds in a separate bank account earmarked for capital replacement.

b) Water levies: Kwacha 3,000/household/month for 10 x 20-liter containers/day

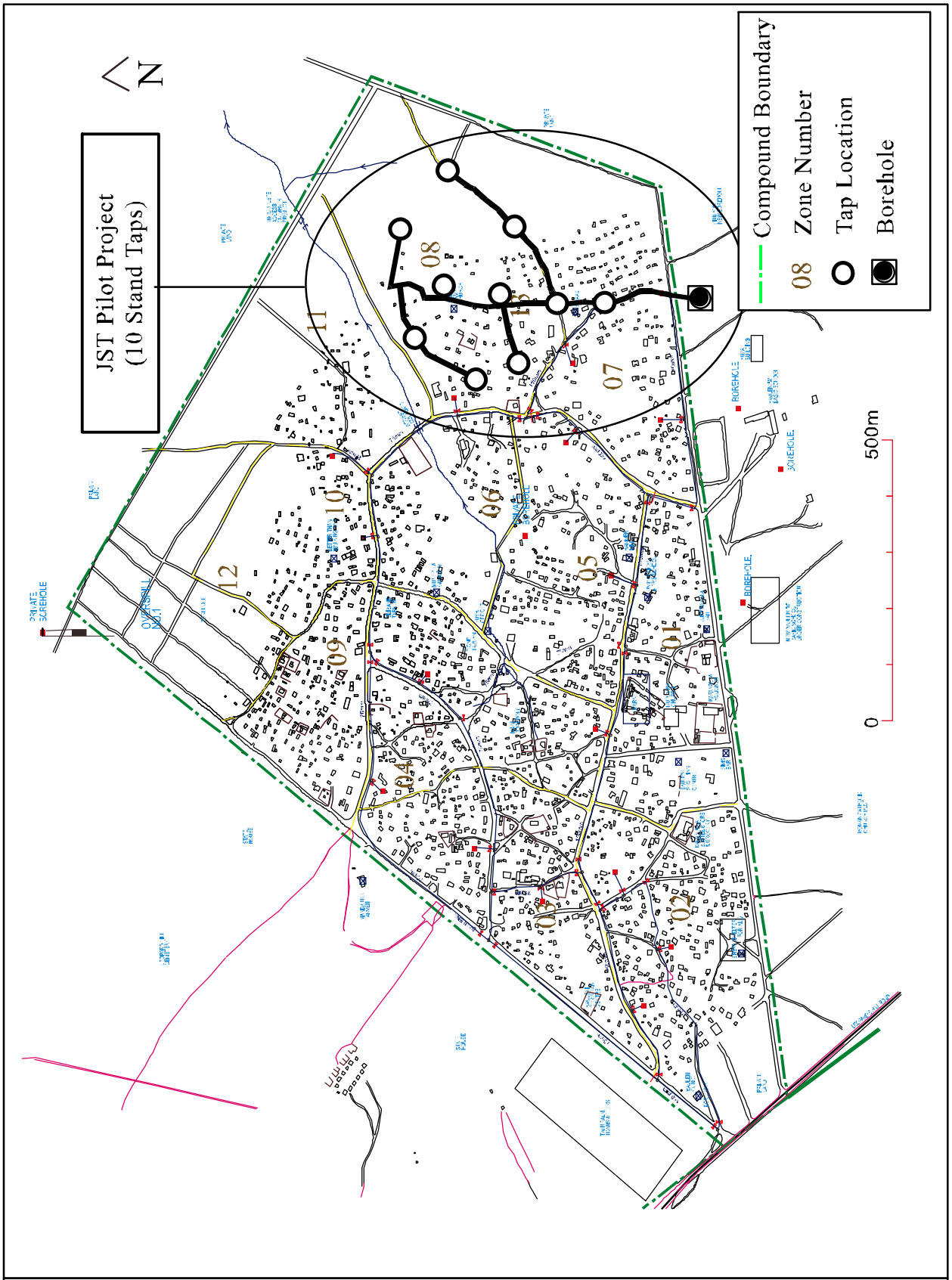
c) Building levy (charged to those constructing new homes): Kwacha 10,000/month

d) Estimated breakdown of monthly water levy

The table below shows a preliminary estimate of expenses and savings based on the standard 3,000 Kwacha/month levy. This exercise was carried out with the RDC and TAs in order to determine the TA commission or wage and also for the community to understand the importance of saving money for future expenses such as paying the electricity bill. The figures are intended to be reviewed regularly based on number of consumers and actual expenses.

Water Levy Estimated Breakdown (Nov 2000)

Amount (K/month, household)	Category
1200	TA Commission (pooled & divided by all TAs)
400	ZESCO (electricity to operate pump)
300	maintenance
100	chemicals (for treatment)
800	administration • transport • stationery • communication • banking • salaries (security guard) • miscellaneous
200	RDC (general bank account)
3000	**TOTAL**



The Study on Environmental Improvement of Unplanned Urban Settlement in Lusaka in the Republic of Zambia	Figure5.3.2 Bauleni Water Supply Pilot Project
Japan International Cooperation Agancy	

The Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka

Japan International Cooperation Agency

Figure 5.3.3

Implementation Schedule of Bauleni Water Supply Pilot Project

5.3.2 Water Supply System Improvement Project in Chibolya

(1) Development Concept

The water supply system improvement pilot project in Chibolya was planned in collaboration with CARE PROSPECT since they planned a large water scheme covering the whole area of Chibolya. The same concept and policies of Bauleni as described in section 4.2.1 were applied for implementation of the pilot project.

(2) Plan Framework

Based on results of discussions with CARE PROSPECT and the contractor (Rankin), the plan framework was determined as follows:

Plan Framework

Description	Chibolya
Served Area (Zones)	Zones 4 and 5
Served Population	4,000
Number of Households	400
Designed Unit Water Consumption (lpcd)	20
Water Demand (m^3/d)	80
Water Source (Borehole)	Deep Borehole
Design Water Yield at Borehole (l/sec)	10
Number of Public Taps (unit)	5
Minimum Residual Water Height (m) at Public Tap	5
Served Population per a Public Tap	800
Length of Distribution Pipeline (m)	1,000

The improvement plan of water supply systems in Chibolya is illustrated in Figures 5.3.4. Areas served by the projects cover only parts of Zones 4 and 5 in Chibolya. Main water supply facilities to be constructed are summarized below:

Main Water Supply Facilities

Description (unit)	Chibolya
Borehole: 1 unit (Depth: m)	60
Submersible pump: 1 set (capacity: l/minute)	1,080
Lift pipe: GSP (m)	30
Operation room with electric power (unit)	1
Boundary wall with height of 2m (Length: m)	56
Transmission pipe: GSP (m)	900
Reservoir/elevated tank: 1 unit (m^3)	100
Distribution pipeline: PVC/DSP (Length: m)	1,000
Number of Public Taps (unit)	5

(3) Implementation

Design works were carried out from December 1999 to March 2000. At the design stage, residents were interested to contribute to siting of the borehole, public tap stands, elevated tank and pipeline routes under supervision of both JICA Study Team and CARE PROSPECT. During the design stage, residents participated in discussions about community participation in construction.

The construction of the pilot project was implemented as shown in Figure 5.3.5. The construction works commenced in June 2000 and the project was completed on November 15, 2000. Residents conducted the works of backfilling and wall construction based on community participation according to the JST approach and helped to lay pipes under instruction of CARE PROSPECT.

Almost all works except those of CARE PROSPECT's portion were done according to the plan. Actual serviced areas consists of Zones 4, 5 and 6 since a tap location was changed from Zone 5 to Zone 6 as a result of adjustment of both plans between JST and CARE PROSPECT. The official operation of the water supply started on December 1, 2000. Results of the implementation of the pilot project are summarized below comparing with the plan.

Framework	Plan	Result
Served area (Zones)	2 (Zones 4 & 5)	3 (Zones 4, 5 & 6)
Number of registered households	400	1,189
Number of public tap stands	5	5
Production/consumption (m^3/d)	85/80	49/45

(as of February 2001)

(4) Integration with CARE PROSPECT

The international NGO CARE PROSPECT has developed a number of large water supply schemes in Lusaka settlements including Chipata, Kanyama and now Chibolya. They take a highly participatory approach, placing community development officers, trainers and engineers on site before, during and after construction. The scale of projects is large and technology fairly sophisticated requiring management by professionals. In Chibolya, CARE PROSPECT has also built a "Compound Planning Office" which serves as a center for community development activities, including housing the management office for the water supply scheme. The role of the RDC in managing the scheme depends on the management model selected by the community under close guidance from CARE.

Following receipt of a letter from CARE PROSPECT, in March 2000, the JICA Study Team (JST) decided to integrate the pilot scheme planned for zones 4 and 5

with the larger water scheme planned by CARE PROSPECT. This was viewed by both parties as more efficient both technically and regarding future management. Following a series of meetings in March, a Memorandum of Understanding was signed between CARE PROSPECT and JST to confirm:

- Collaboration in Chibolya compound
- JST pilot scheme for zones 4 & 5 would remain as per the contract with the contractor, and would be implemented in a manner which facilitates integration of the two zones within the overall scheme
- Coordination would be established and maintained
- Detailed engineering coordination and budgeting would be facilitated by the engineering consultant
- Similar community participation would be taken in the pilot project area and remaining area for construction and O&M
- Coordination would be ensured through regular meetings on various aspects of the project (construction, mobilization and institution-building, and environmental health). Each side would take efforts to maintain good working relations, making mutual expectations clear, and promptly raising and addressing any problems
- Joint action plan would be developed and updated on a regular basis.

(5) Community Participation in Construction Works

Chibolya residents had a larger role in project implementation than originally planned due to following CARE PROSPECT's approach. The following table shows the division of construction work:

Phase I: Contractor	Phase II: Community
1. Drilling borehole 2. Borehole starter room and wall fence 3. Erection of tank and wall fence 4. Pipelaying (borehole to tank and 5 "JST" water points) 5. Rising main and distribution network trenching 6. Power supply to borehole	1. Selection of water points 2. Construction of water points 3. Soakaway construction 4. Connection of water points 5. Pipe laying 6. Backfilling of trenches

(6) Training Provided under Project

JST proceeded with their original plan of hiring subcontractors to train the community in O&M and Financial Management. The following training was provided:

Type (provider)	Days	Participants	Purpose	Contents
Community water management training (ADaT)	5	RDC, Water Committee (WC) & 5 Tap Attendants (TAs) for zones 4, 5 & 6 (20)	Provide community with financial and management skills to run new water system	Community participation Water committee formation and roles Monitoring and evaluation Proposal writing Financial and management options (CARE PROSPECT model) Conflict resolution Sustainability Bookkeeping and simple accounts
Water system operation and maintenance training (LWSC)	3	RDC & TAs from other zones (13)	Provide community with technical skills for O&M of new water system	Water production Water distribution Water quality Plumbing Safety
Follow-up O&M training (JST and Rankin)	½ day	RDC, WC & TAs (24)	Provide hands-on training following operation	O&M: system parts, daily, weekly, monthly & bi-annual tasks, water supply and health

CARE PROSPECT also provided 10 half-days of ABO training and 3 days Participatory Learning and Action (PLA), and arranged an exchange visit to George compound.

(7) Temporary Operation Plan

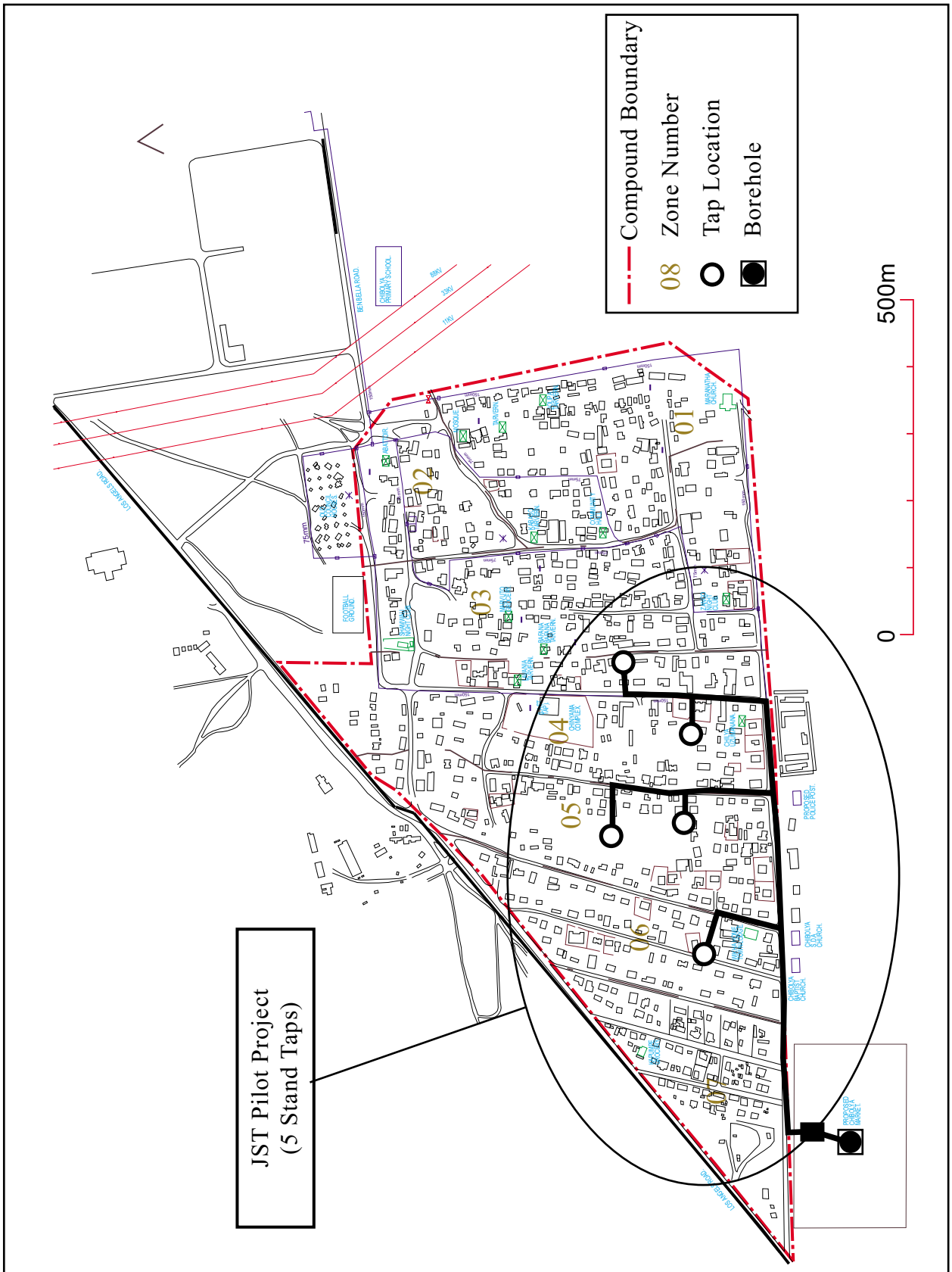
Because the five JST taps are being operated prior to the completion of the whole system, it was agreed to set up temporary operation and financial management (FM) systems. During this trial period, the RDC would be responsible for FM, while JST and CARE PROSPECT would be responsible for technical operation including chlorination. The technical and management implications of operating the first five taps ahead of the rest of the system were considered in several meetings. The community decided that operation hours would be from 06:00 – 10:00 and 14:30 – 18:30 (8 hours daily). Taps would be secured by removing them at night until a locking system is in place. Water would be provided for 3 days free of charge to give time to test pressure and other technicalities. Tap attendants would be present at the taps during this demonstration period to inform the community coming to collect water (potential customers) on the types of payment options available, operating hours and other matters of interest.

(8) Cost Recovery System / Temporary Financial Management System

Since the completion date of the whole compound water system is not yet known, it was decided to make arrangements for a temporary system to operate for four months (December 2000 to March 2001). The following was agreed upon with CARE PROSPECT, JST, and the community:

a) Payment method and water levies: K3500/household/month for 8 or 10 containers (20-liter) or K50/container. All payments would be made in advance to a cashier at a cash collection point. User cards would be issued for monthly users and tickets to those who buy per container.
b) Cashier: Suitably qualified person would be selected from the community and paid a minimum wage. Community to develop conditions of service and make selection with support of CARE PROSPECT and JST.
c) Cash collection point: Fees would be collected at the taps by the TAs, who hold a receipt book and waist pouch to carry cash. The cashier would travel from tap to tap to collect cash at mid-day and again at closing hours in the evening. (CARE PROSPECT is funding the construction of a Compound Planning Office which will have an office for water scheme management. Estimated date of completion is late March 2001.)
d) Banking: Separate current account is being opened at Barclay's Bank with 2 community signatories (RDC Treasurer and WC Chair) and 2 LCC signatories, as is the policy according to the RDC constitution.
e) Stationery and office supplies: Start-up funds were allocated by JST to cover the initial stationery requirements of user cards, receipts and tickets as well as basic office supplies.
f) Support: Support to the community would be provided by CARE PROSPECT officers.

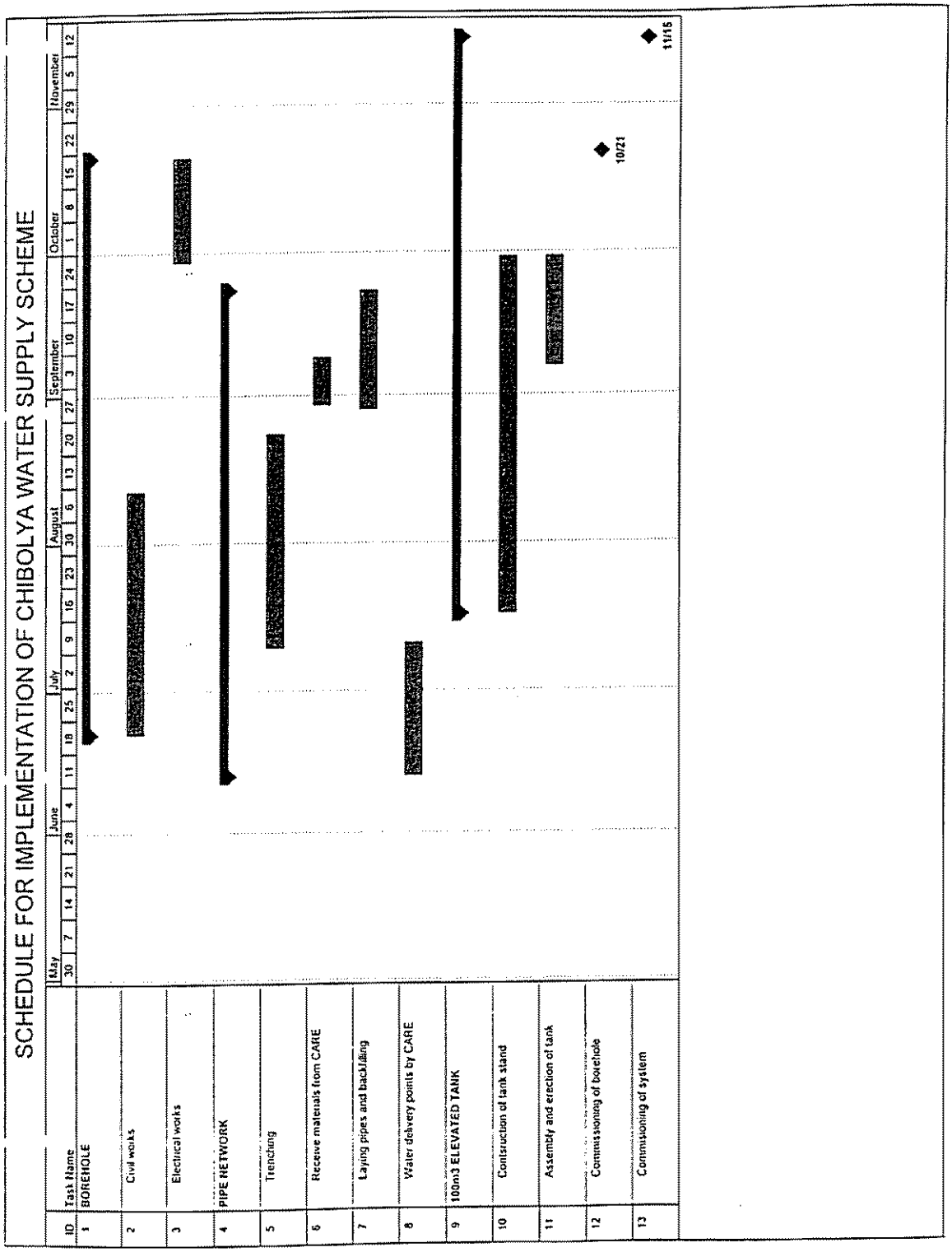
TAs are stationed at the four taps during operating hours to collect levies (Chibolya residents are in the habit of paying by container rather than a monthly fee), give receipts and oversee water collection. Key members of the RDC and WC have taken responsibility to ensure the smooth operation of the taps on a temporary basis. They are in close contact with CARE and LCC, and also visit the tap stands to oversee the work of the TAs and maintain contact with resident consumers. They are taking responsibility for security, banking, maintenance and following up on any issues that need addressing.



The Study on Environmental Improvement of Unplanned Urban Settlement in Lusaka in the Republic of Zambia

Japan International Cooperation Agency

Figure5.3.4
Chibolya Water Supply Pilot Project



The Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka

Japan International Cooperation Agency

Figure 5.3.5

Implementation Schedule of Chibolya Water Supply Pilot Project

5.3.3 Road and Drainage Improvement Project in Ng'ombe

(1) Implementation Plan

From results of discussion with LCC, RDCs and residents of Ng'ombe, the following concepts and policies were used to implement a pilot project for the improvement of road and drainage in Ng'ombe.

- Development of proper drainage,
- Rehabilitation of the existing surface condition,
- Implementation of the projects based on community participation,
- RDCs leading community participation activities,
- Executing of design and construction works by a contractor under supervision of the JICA Study Team and LCC.

The project plan was formulated in accordance with the framework shown in the table below.

Location Map and typical cross section for the improvement of the road and drainage at Ng'ombe is illustrated in Figure 5.3.7.

Road and Drainage Improvement Pilot Project at Ng'ombe

Description	Contents
Target Road	Priority No.1 Road at Ng'ombe chosen by RDC
Road Length	Approximately 630m
Carriageway Width	4.0m
Proposed Total Width including open drainages	6.0m
Drainage Type	Open Drainage (sodding) both side
Pavement Type	Gravel Pavement
Control Point for the determination of the proposed alignment	Existing electricity poles and Houses (No house compensation and no relocation of public utilities)

(2) Schedule of Works

Ng'ombe road pilot project was carried out according to the following process.

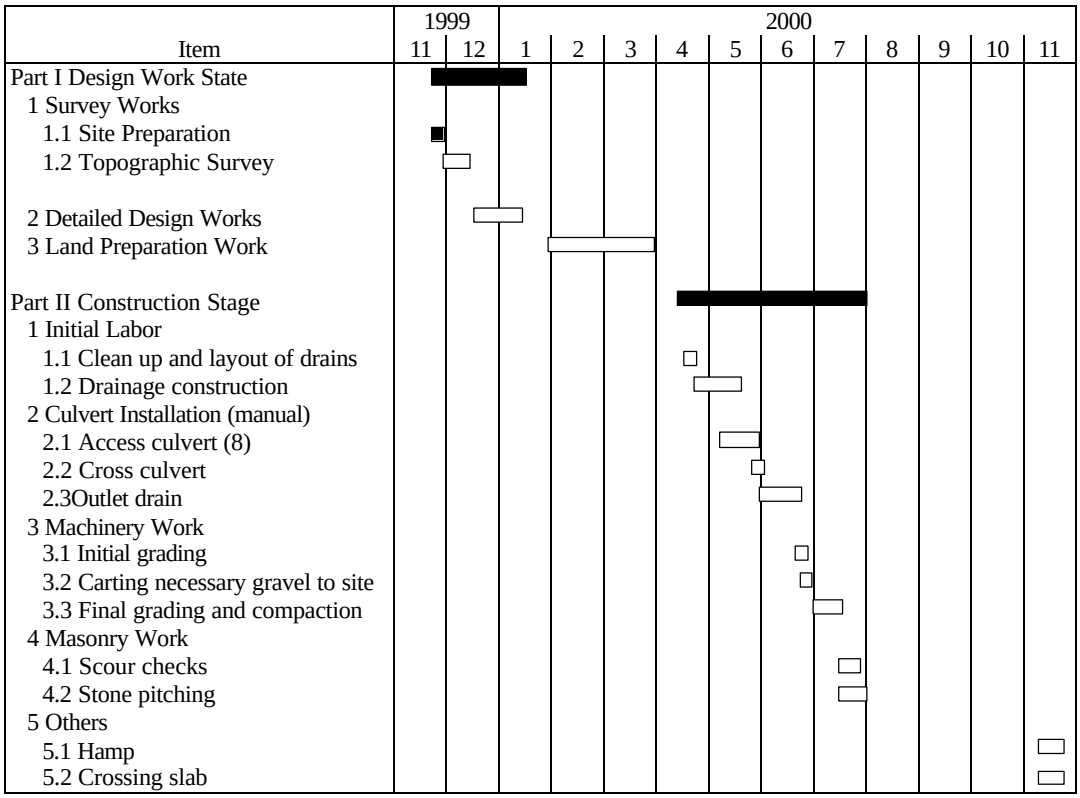


Figure 5.3.6 Implementation Schedule of Ng'ombe Road Pilot Project

(3) Community Participation in Road Works

Community participation in the Ng'ombe road pilot project is summarized below.

Community Role in Road Works

Work	Community Role
Clearing drains and cutting hedges	Voluntary labor provided by about 30 people (majority women) living along the road
Excavation of trenches	▪ 20 – 53 laborers hired from community at minimum wage (majority women) ▪ Roads Committee (RC) Chairman was employed as supervisor of works ▪ Provided tools (on hired basis)
Installation of culverts	20 laborers hired by subcontractor
Gravel works	10 laborers hired to remove gravel from ditches (gravel was sprayed by grater)
Masonry works & stone pitching	By subcontractor RC learnt masonry works & stone pitching
Pedestrian crossing slabs (original batch)	▪ Procured and delivered by contractor ▪ Community assisted the contractor with installation
Pedestrian crossing slabs (replacement)	Constructed by Roads Committee as training exercise with JST, LCC and subcontractor
Speed humps (4 total)	Built with RC as on-the-job training exercise carried out by contractor and LCC
Stone pitching and sodding of remaining drains	RDC carried out the work.

(4) Training Provided under Project

The following training was provided to the Ng'ombe community under the pilot project:

Type (provider)	Days	Participants	Purpose	Contents
Management (ADaT)	5	RDC and Roads Committee members (19)	Equip the RDC and roads committee with skills in leadership, planning and management	Sustainable community-based development Group dynamics Project planning and management Resource mobilization Financial management
Basic road maintenance (LCC Engineering Services Dept.)	2	RDC, Roads committee (15)	Provide participants with basic knowledge of structures, tools and maintenance activities used on roads	Introduction to basic road structures: purpose, defects & their causes Maintenance techniques for gravel roads (carriageway and drainage) Introduction to hand tools
Labour-based methods of gravel road construction and maintenance (LCC ESD)	2	RDC, Roads committee (15)	Same as above	Field trip to Linda compound to visit PUSH road project Definition of basic road infrastructure, common defects and maintenance techniques Labour-based reshaping Major reshaping and dragging Project organization
Road labour-intensive works (PUSH)	10	Roads committee (10)	Provide road committee members further practical training in community-based road construction	Measurements Setting-out and use of tools Stages in road construction Setting out of horizontal curves Vertical alignment Practicals in road construction

(5) Roads Committee Management Plan

<u>Roles and responsibilities</u>

- community sensitization and mobilization
- fund raising and revenue collection for road works
- purchase and storage of tools and materials
- planning, organizing and overseeing basic road maintenance
- liasing with RDC, LCC officers, donors and other stakeholders

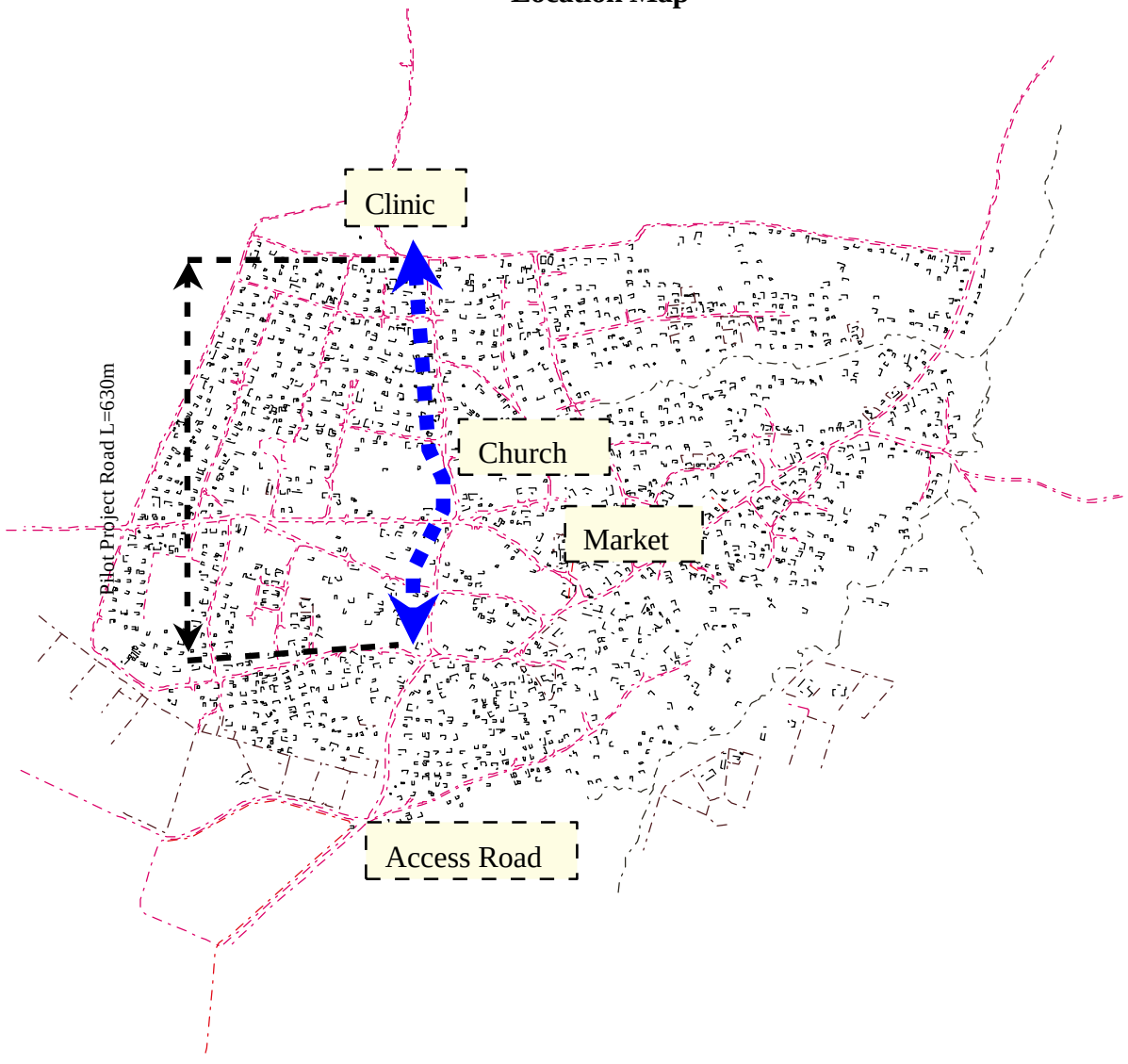
Fund raising

A Kwacha 500/household/month levy has been proposed by the RDC and Roads Committee to support road maintenance in the community. Roads Committee members will collect this door-to-door. Collection has begun and K160,000 was collected as of November 2000. The funds collected are being turned over to the RDC treasurer and when the amount is large enough an account will be opened. The RDC will keep a portion of the funds.

Maintenance activities

- pothole patching
- drain cleaning
- cement slab replacement
- sodding of drains

Location Map



Typical Cross Section

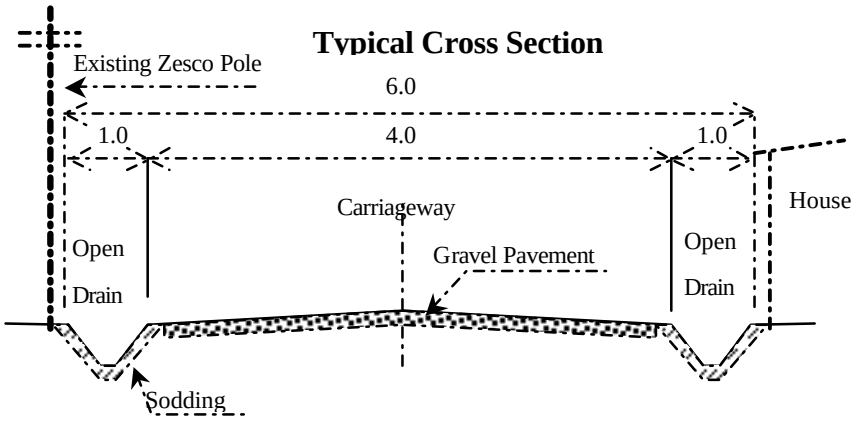


Figure 5.3.7 Location Map & Typical Cross Section

5.3.4 Health and Hygiene Conditions Improvement Projects in Bauleni and Chibolya

Health and Hygiene Conditions Improvement Projects (HHCIPs) in Bauleni and Chibolya conducted by JST were subcontracted to Africare (NGO). The pilot projects were divided into the following three components:

- Community-based Health and Hygiene Education in Chibolya and Bauleni
- School-based Health and Hygiene Education in Chibolya Middle School
- Home and Demonstrative Communal VIP Latrine in Bauleni and Chibolya

The descriptions of those pilot projects are:

- Preparatory work (collection of community profile data, preparing training of trainers module and development of work-plan)
- Implementation of the project in line with the work-plan
- Monitoring and evaluation

The main works of each component implemented at Bauleni and Chibolya are described below:

(1) Community-based Health and Hygiene Education in Chibolya and Bauleni

1) Preparation and situation analysis

Health and socio-economic situation was reviewed by using the existing study results such as baseline survey. Africare in consultation with a LCC public health officer designed training modules and handouts including sanitation & health education messages before conducting a training of trainers workshop (TOT workshop).

2) TOT (training of trainers) workshop

As the trainers would be the health educators for residents after the TOT workshop, the workshop was very significant.

Target	40 (20 from each settlement) members of the community (mainly those from initial targeted zones (Zone 8 and 13 for Bauleni and Zone 4 and 5 for Chibolya)) were targeted to become health educators. Chibolya (1 community member, 14RDC/ZDC members, 5NHC members) Bauleni (12 community members, 6 RDC/ZDC members, 2 NHC members)
Purpose	1) Acquire the knowledge of the transmission routes and prevention methods of water and sanitation related diseases so as to educate (train) others 2) Find the best methods of improving hygiene and sanitation in the community and come up with concrete solutions in a form of Work Plan
Facilitator	Africare staff, Health Center Staff (Bauleni and Kanyama) and health education staff at LCC (Department of Public Health)
Training contents (Key messages)	1) Identification of health problems in the community 2) Safe water supply (source of water, water handling, water storage) 3) Sanitation facilities (safe and sanitary latrine) 4) Personal and Environmental Hygiene (garbage, drainage) 5) Domestic and Food Hygiene (keeping domestic animals) 6) Participator Learning and Action and creating Work Plan
Form of training	Days: 7days Chibolya (December 16th -24th 1999), Bauleni (January 5th-18th 2000) Time: 8:30 (AM) - 16: 30 (PM) Methods used: lecture, group discussion, group exercise, community mapping

Note: NHC (neighborhood health committee)

3) Development of Work Plan

The Work Plan for the targeted compound was first developed at the end of each TOT workshop by the participants and then finalized after receiving advice from the health center and LCC public health department. This Work Plan also includes activities not covered (funded) by the pilot project since this was considered as "Community's Annual Work Plan".

4) Health Education Activities in the community

Major activities and verifiable indicators used are listed in the Work Plan and actually conducted in Chibolya and Bauleni are as below:

Activities	Indicators
1) Door-to-door health education	At least 25% of the targeted population in the targeted area in each settlement receive health educators' visit once or more
2) Drama performances to disseminate sanitation/hygiene messages	At least three drama performances in each settlement are performed

5) Monitoring

Monthly monitoring sheets were introduced so as to assist the health educators and supervisors (Africare, LCC and JST) to record, monitor and assess their health education campaigns in the community. This was to help them see whether their coverage was having some impact. Find below an assessment of each of the sheets designed.

Sheet	Purpose/Characteristics of the Sheet	Difficulties Observed
Register book	*Gives information (name, plot number, family members, environmental health situation) about each household visit *Tracing the households being reached by numbers can be easily seen and counted	*Since it is just hard cover notebook, it can be used for other purpose, such as children's school book
Monthly return forms	*Gives information (basic household information and topics covered by the health educators recorded) *It is a simple and easy sheet to be filled by health educators	*Some topics were less relevant (such as Malaria which was not covered in the door-to-door campaign). *The sheet does not give key messages, only the topics
Group institutional building sheet	*Gives information (aspects of group institutional capacity development, such as leadership, decision making etc) *Community based group evaluate each indicators (score range from 0 (poor performance)-3 (good performance) at the meeting/workshop *Helps JST/LCC to assess the group capacity building improvement at the end of the project	*It is difficult for health educators to understand and fill in the sheet
Household follow up monitoring sheet	*Helps health educators to see the effect of their door-to-door campaign and keep record of topics covered and plan for revisits	*Scoring method is not clear for health educators because it is not necessarily one health educator who revisits the house.

(2) School-based Health and Hygiene Education in Chibolya Middle School

1) Collaboration Meetings

Building partnership among relevant stakeholders (such as Africare, CARE PROSPECT, health center) and the selected school was strengthened through consultative meetings with DEO (District Education Office) and the school head.

2) Organize SHCC (school health coordinating committee)

The school formed balanced stakeholder SHCC consisting of twelve-members who are two teachers, one pupil and nine members of the community.

3) Preparation for the training

A training module was developed and Africare identified training materials in collaboration with CARE PROSPECT and a LCC public health official to conduct a 3-day situational analysis workshop for SHCC members.

4) Training workshop

Target	12 members (2 teachers, 1pupil and 9 members of the community)
Purpose	1) To equip the participants with knowledge on the basic WASHE (water and sanitation, health education) needs and the school health component 2) To analyze the present WASHE situation at the school 3) To equip participants with problem solving skills 4) To assist participants come up with a health/hygiene promotion Work Plan
Facilitator	Africare staff, CARE PROSPECT staff, Health Center Staff (Kanyama) and health education staff at LCC (Department of Public Health)
Training contents (Key messages)	1) Situation analysis to identification of health problems in the community 2) Safe water chain (source, collection & transportation, storage, treatment) 3) Sanitation facilities (safe and sanitary latrine) 7) Personal Hygiene (general care given to the body; hair, mouth, eyes etc.) 8) Environmental Hygiene (garbage, drainage, garbage) 9) Food Hygiene (safe food chain, or food hygiene) 10) Participator Learning and Action and Action Planning
Form of training	Duration: 3days Chibolya Middle School (May 19th-21st 2000) Time: 9:00AM-16: 30PM Methods used: lecture, participatory exercise, discussion

5) Development of Work Plan

A comprehensive four months School Health Work Plan was developed. This Work Plan did not only include activities covered (funded) by JST pilot project.

6) Activities

Since implementation period of this component was very short (2 months from middle of May to middle of July), activities actually conducted were limited to the following items:

Activities	Indicators
1) Weekly meetings to monitor progress	Wednesday weekly meetings are held
2) Community mobilization	2 mobilization and sensitization meetings are held
3) Refuse disposal activities	2 refuse pits dug, 26 carton boxes sourced, 8 drums or bins sourced
4) Drama training	School drama group is trained for 3 sessions
5) Drama performances to disseminate sanitation/hygiene messages	2 performances done (at school and community)

7) Monitoring

The planned activities were monitored through weekly meetings involving all the members of SHCC.

(3) Home and Demonstrative Communal VIP latrine project

1) Preparation and situation analysis

Sanitary situation in the pilot area was reviewed by using existing study results such as baseline survey. Africare in consultation with a LCC public health officer designed training modules and handouts before conducting a training of trainers workshop (TOT workshop).

2) TOT (training of trainers)

Trainings for 20 (10 from each settlement) community based bricklayers, later named as LCG (latrine construction group), were conducted in combination with TOT for health educators. (First 5 days are joint session with health educators' training)

Target	20 (10 from each compound) members of the community (mainly those who have had bricklaying skills), not limited to those from targeted zones. Chibolya (4women, 6men), Bauleni (7women, 3men)
Purpose	1) Acquire the knowledge and skills to build good (safe and sanitary) latrine 2) Mobilize households acquire appropriate sanitary facilities
Facilitator	Africare staff (latrine technician)
Training contents	1) Features of a good pit latrine 2) Superstructure 3) Slab 4) Vent pipe 5) Siting of a latrine
Form of training	Days: 13days Time: 8:30 AM-16: 30 (PM) Methods used: lecture, group discussion, group exercise, practical <THEORY 5days (health education class) and 2day latrine theory + Work Plan> <PRACTICALS 6days on site building demonstration latrines>

3) Development of Work Plan

Except for two demonstration VIP latrines, JST did not fund Chibolya community for latrine component in order to compare its outcome with Bauleni in which 75% of the construction cost of 40 VIP latrines was prepared by JST budget.

4) Activities

Breakdown of the activities done by the community (LCGs, RDC and beneficiaries) are summarized as below:

Building demonstration VIP latrines	In Chibolya and Bauleni, the project supplied all of the necessary materials to construct a total of 5 demonstration latrines (1 single and 2 double pit VIP latrines). Construction of the demonstration VIP latrines served as a valuable practical lesson for the bricklayers in residence who were able to construct these during the TOT.
Community sensitization	In Chibolya and Bauleni, LCGs and the RDC held the VIP latrine campaign within the communities. A door-to-door visit was undertaken with the combined efforts by the health educators whose role was to sensitize the community on the health benefits of the VIP and the expected contribution to be complimented by the beneficiaries.
Selection and agreement of beneficiaries	In Bauleni, the selection criteria for the beneficiaries are as below: 1) Permanent residents of the settlement 2) From the pilot zone areas, 3) Those who showed commitment to contribute and recommended by the RDC
Beneficiaries training	In Bauleni, on-site training was done to expose the beneficiaries to construction and maintenance skills during the construction of the pit latrines.
Procure/provide materials	Procurement of materials was done by Africare together with LCGs, and RDC was responsible for storing the building materials and issuing them to the Latrine Construction Group.
Construction	In Bauleni, the project provided the beneficiaries with 75% of the materials, such as cement, reinforcement wires and bars and fly screens, required to build the forty home latrines and two demonstration latrines. The beneficiary contributed the remaining 25% of the supplies needed in the form of labor, water, and sand. The number of targeted latrines to be constructed by the end of the pilot project was 2 demonstration latrines each in both Bauleni and Chibolya and 40 home latrines in the target zones of Bauleni.

5) Monitoring

Analysis of the latrine construction process was conducted using a monitoring sheet to find out the construction progress of VIP latrines (including demonstration latrines), appropriateness/acceptability of new technology, good usage (utilization) habits, observed damage and cleanliness of latrines.

5.3.5 Income Generating Project in Bauleni

(1) Background and Objective

The initial survey conducted by JST showed that poverty was a serious problem in Bauleni. Generally, most urban residents in low-income settlements are forced to live under poverty line. To tackle absolute poverty, it is very important to introduce the economic activities in the pilot projects by using practical instruments such as provision of business skills and micro-credit for those poor people. Thus, income generating activities are considered to be one of the most effective devices to determine effectiveness of pilot project for poverty reduction.

(2) Organisations in Charge of Operation

A NGO, Association of Medical Doctors of Asia (AMDA) was assigned as an implementing agency. AMDA is responsible for the group formation, disbursement and management of loans, monitoring and evaluation. It is also a precondition that both LCC and RDC/CBOs are involved in the process of selection of beneficiaries, disbursement of loans, monitoring and evaluation.

(3) Process of Implementation

The project aimed at providing small loans, targeting women, adopting a group based lending system, mobilising small and frequent savings and setting interests for sustainable financial operation. Ninety-six beneficiaries were divided into two groups (Phase I & II groups). Each group has sub-groups that consist of five members with responsibility for lending, repayment and monitoring.

1) NGO selection and situation analysis

AMDA was appointed as an implementing agency in charge of operation and management of financial institution. Prior to the implementation, JST and AMDA analysed the socio-economic situation to identify problems and needs in the community. Also base line survey (household survey) was conducted in Zones 8 & 13 to identify their living conditions.

2) Criteria and eligibility of beneficiaries

AMDA gave guidance to RDC and the subcommittees on how criteria and eligibility of beneficiaries have to be set up. These include target group (women in Zone 8 & 13), business experience (type of business which is available in the community), income (low-income households), resident status (living in Bauleni more than 2 years), age (productive age) and negative record (no criminal and debt records).

3) Selection and screening

RDC, ZDC and subcommittee (churches) cooperated to notice and advertise the induction of the project. The candidates having interest in the project submitted application forms together with references from RDC and Church members. About 100 people submitted applications in Phase I group, and 46 (50 in Phase II) were selected by strict screening. Leaders, secretary and treasurers were selected from each sub group (5 members) and these officers will be responsible for group operation.

4) Workshop and development of work plan

After screening beneficiaries, two days workshops were conducted by AMDA in order to brief the objectives and principles of microfinance. Also CAP (Community Action Plan) was undertaken in participatory manner to identify problems and needs in the community and make action plans for operation.

5) Business and financial training

A credit officer in AMDA organised training to focus on business and financial management, community participation and mobilisation, group solidarity/responsibilities, and gender issues. The training has 12 sessions, which cover both theoretical lecture and group works.

6) Disbursement

After trainings were completed, all members were eligible to get loans. Loan ranged from Kwacha 200,000 to Kwacha 500,000 in Phase I, and Kwacha 300, 000 in Phase II. As beneficiaries in Phase I complained the differentiated loan amounts, Phase II was provided fixed amounts in order to avoid any frustration and sense of favouritism.

7) Reimbursement and monitoring

After one month grace period, beneficiaries started to repay loans. Initially, each sub-group (leader) was required to be responsible for collection and repayment of loans. However, Phase I group did not have this function and repayment was done on individual basis and had no group responsibilities. Group system in Phase II worked better and groups had higher performance and sense of solidarity. Therefore, because of lack of group monitoring system in Phase I, daily monitoring was primarily conducted by the credit officers through individual interviews, consultation and financial bookkeeping and they also utilised the monitoring sheets developed by AMDA and JST (See utilised the utilised the monitoring sheets developed by AMDA and JST.

8) Evaluation

The interim evaluation for Phase I was made in July by AMDA and beneficiaries. The final evaluation was conducted through individual interviews (household survey) by JST and AMDA and two-day evaluation workshops were organised by AMDA, groups of Phase I and II, LCC and

JST when repayment due date came for Phase I. Following table shows the operation profile for Phase I & II.

Micro Finance Operation Profile

Number of Beneficiaries:	Phase I 46 (1 passed away) Phase II 50
Date of Disbursement:	Phase I 18th February 2000 Phase II 16th June 2000
Grace Period:	1 Month
Repayment Period:	32 Weeks
Loan Due Date	Phase I 4th November 2000 Phase II 24th February 2001
Range of Loans:	Kwacha 200,000 – Kwacha 500,000 (Phase I) Kwacha 300,000 (Phase II)
Amount of Loans:	Phase I Kwacha 17,915,000 Phase II Kwacha 15,000,000
Interest Rate:	10 %
Loan Insurance Fund:	5 % of Loans
Savings:	1 % of Loans on weekly basis
Training	12 sessions for 2 weeks before disbursement

(4) Schedule

Following is the actual work process for Phase I and II.

Scope of Work Phase I (1999-2000) Phase II (2000-2001)	M1 12 4	M2 1 5	M3 2 6	M4 3 7	M5 4 8	M6 5 9	M7 6 10	M8 7 11	M9 8 12	M10 9 1	M11 10 2
Preparation, Situation analysis											
Eligibility criteria set-up of beneficiaries											
Selection and screening Beneficiaries											
Development of work plan											
Training											
Conditionality setting and Disbursement of loans											
Reimbursement and Monitoring											
Business consultation											
Evaluation											

Figure 5.3.8 Implementation Schedule of Bauleni Income Generating Pilot Project

5.3.6 Community School Project in Chibolya

(1) Background and Objectives

The initial survey discovered that the enrolment rates of primary education in Chibolya is very low and about 3,000 children are estimated to be out-of-school. Most of those who are unable to go to public school are poor and underprivileged. It is, in light of this, highly important to promote non-formal education, i.e. community school for out-of-school children. The project aims to build up awareness of importance and value of education for out-of-school children, to mobilise community participation in the process of construction and school running.

(2) Organisations in Charge of Operation

The RDC, newly established Education Committee (EC) and PTA were supposed to contribute labour for construction and take responsibility for selection of pupils, teachers and school running. NGO (Challenge International Ministry: CIM) was appointed as an implementing agency in charge of delivery of construction materials, teachers training, and other supports regarding school management and running. LCC staff, a building manager and CDO were also engaged in the supervision of construction and community mobilisation. Also the Ministry of Education and ZCSS (Zambian Community School Secretariat) gave support by providing teacher training and textbooks and other technical guidance.

(3) Process of Community School Development

1) Organisational set-up for education and school development

Education Committee (EC) was set up in collaboration with RDC. EC play a main role in handling education issues in all community. EC and RDC selected PTA members which consisted of parents, teachers, RDC and EC Chairpersons.

2) Selection of pupils and teachers

EC and RDC first advertised the induction of the project and then the selection of children and teachers through posters and a loud speaker. 160 children were screened out according to the criteria (orphan, girls, and underprivileged). 6 teachers were also interviewed from many applicants in the community, and CIM and the community strictly examined their background (should have grade 12) for their appointment.

3) Workshop

Workshop was conducted by RDC, EC and CIM in order to identify each group's role and responsibilities, work plan, construction design and school running. Consensus was built among all stakeholders regarding above matters and all parties signed a Memorandum of Understanding (MOU).

4) Labour selection and construction

PTA and EC selected voluntary labour. At an early stage, they committed to work for 3 hours a day mainly for bricklaying, but the community could not continue contributing labours until the end of construction. Alternatively, CIM have managed to find workers from outside of the compound.

5) Teacher training

CIM in special cooperation with MOE provided teacher training. The courses covered 1-month of theoretical lectures and another 2 months of practical training in the Chibolya Basic School. As 2 teachers have dropped in midway, 4 have completed all required courses and now got qualification to teach.

6) Establishment of school management and running system

There was no discussion about operation and maintenance and school running system between EC, PTA and RDC until the end of October. Basic ideas were outlined in the Evaluation Workshop in November, but regarding fund raining for teachers and maintenance costs, more detail and concrete plans needs to be developed in the near future. NGO (CIM) will follow up and find ways to sustain the school running together with PTA, EC and RDC.

7) Monitoring and evaluation

Monitoring and evaluation of construction process, community mobilisation and teacher's training is conducted by CIM and EC/RDC. EC and RDC had bi-weekly meeting to monitor the progress and identify needs and problems. CIM also closely monitored through construction foreman as well as the community. Monitoring and evaluation are completed by observation, interviews, meetings and was filled in the monitoring sheets developed by CIM and JST (See Appendices).

(4) Results of Implementation

To elaborate the implementation process, Table below shows the summary of all implementation process on both positive and negative results with time frame.

Process and Achievement of Community School Development

Action	Positive	Negative	Timeframe
1. Formation of Education Committee (EC)	Assisted mainly in identify and selecting children, teachers, and voluntary labours.	School running system did not make. Could not strengthen PTA capacity.(Running system was outlined in November 2000 and PTA training was conducted in December 2000)	March 2000 Done On Scheduled
2. Selection of Children	Initially community endeavoured to select 160 orphans, under-privileged and girls.	Latest list does not include 160, but only 78 since many families changed plans (Reselection was finalised in December 2000)	End of May 2000 Delayed
3. Formation of PTA	Assisted mainly in identifying selecting children and contributing and voluntary labours.	Organisational capacity is still weak. Needs Management skill training. School running system did not make.(Followed by PTA training and NGO support)	June 2000 Done on Scheduled
4. Organising Workshops	Clarified the roles of each stakeholders, and bi-weekly meeting is held for monitoring.	Some issues (work plan, construction, materials) decided in the workshop/meeting were not performed according to the plan. Few attendance of CIM	April, and bi-Weekly afterward Almost done
5. Selection of Voluntary Labours	Encouraged the community participation and promoted PTA's capacity	Very few labours from PTA and community participated. Labours were sent back as no materials.	June to October 2000 Half done
6. Selection of teachers	Selected 6 from their own community. Qualification was strictly examined.	Position is still unstable (no contract yet) Two teacher already resigned.(4 teachers are assigned in employed status)	End of May 2000 On schedule
7. Construction of school facilities	Quality of facilities is acceptable to the community except timber trusses is weak.	Community participation was low. Delay of construction was caused by delay of materials and financial matter. Water connection is not yet completed. (This problem was discussed and analysed in the workshop, and the community recognised that this is a good lesson learnt.)	June to October 2000 Delayed
8. Teacher's training	Got training at both the resource centre and Chigolya Basic School.	Training allowance is not enough to sustain their life. (Training allowance and salary systems were established.)	June to October 2000 On schedule

Action	Positive	Negative	Timeframe
9. Establish-ment of school management and running	Basic framework of school management and running was made in the evaluation workshop. Community and CIM will cooperate.	Fund source is not yet confirmed. PTA fund, teachers' salary are not yet decided. PTA's capacity is still week to run the school (NGO will continue financial support but community will also initiate fund raining after school opening.)	June to October 2000 Delayed

Figure 5.3.10 is drawings of school facilities, which are Micro Project standard by the Zambian Government.

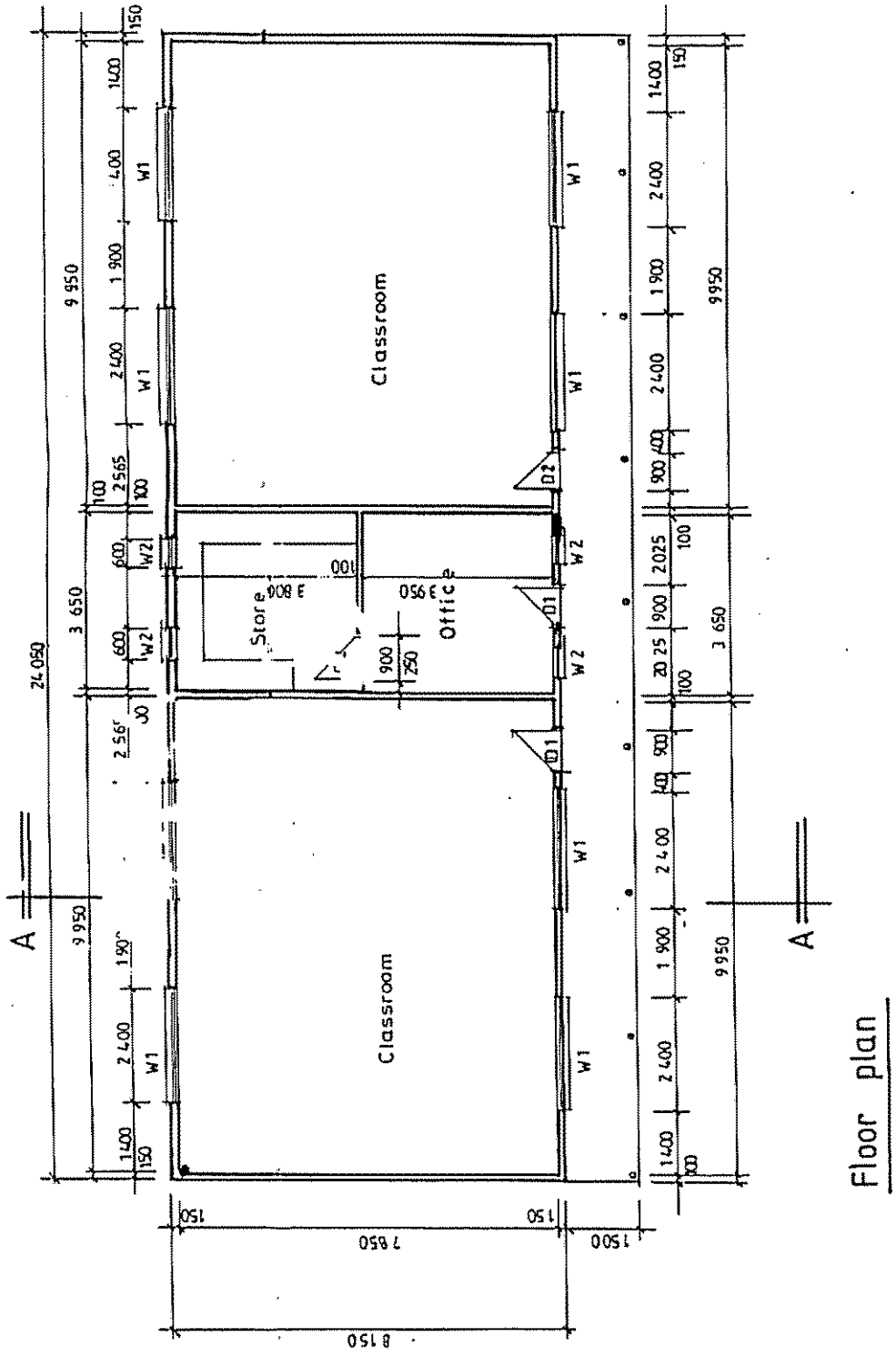
(5) Schedule

Following is the work plan of construction process.

Scope of Works	4	5	6	7	8	9	10	11
Formation of Education committee (New school)								
Selection of children (New school)								
Formation of PTA (New school)								
Development of Work Plan								
Selection of voluntary labours								
Selection of teachers								
Construction (School building, Security fence, VIP latrines, Water supply)								
Teachers' training								
Monitoring and Evaluation								

Monitoring

Figure 5.3.9 Implementation Schedule of Chibolya Community School Pilot Project



The Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka	**Figure 5.3.10**
Japan International Cooperation Agency	**Design of Chibolya Community School**

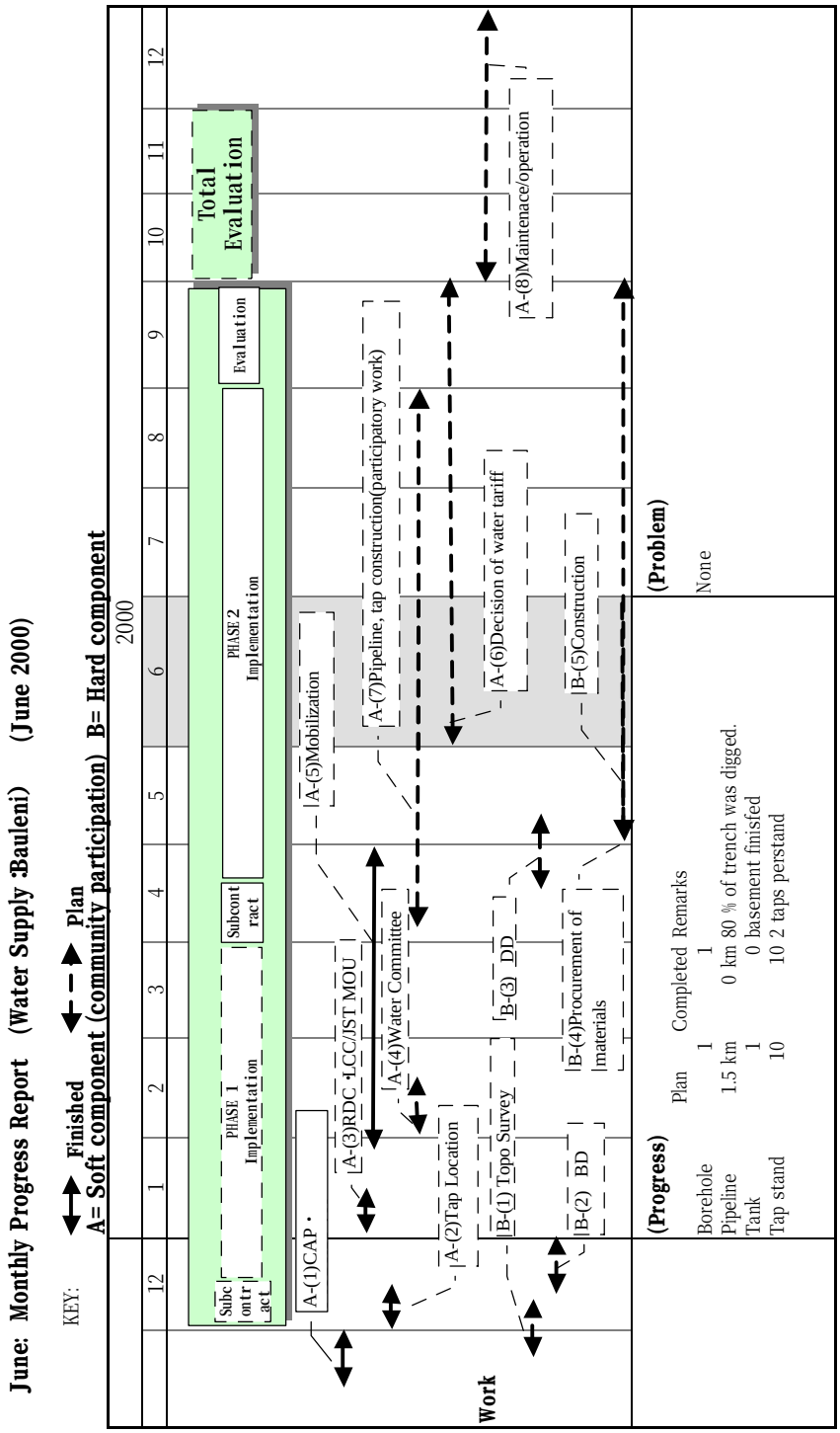
5.4 Monitoring of Pilot Projects

Implementation progress of the pilot projects was monitored by 1) Steering Committee of the Study, 2) Task Force organized with relevant departments of LCC and subcontractors, and 3) JICA Study Team (JST).

The Steering Committee received the progress report from the JST concerning the pilot projects to monitor and supervise the direction and schedule of the pilot projects in general. The Steering Committee Meeting were held in December 1999, March 2000 and July 2000.

The Task Force was organized in response to the request from the JST in order to cooperate for the management of the pilot projects implementation. The Task Force supervised the progress of the pilot projects and coordinated the cooperation between the community and subcontractors such as NGOs, local consultants and contractors. Peri-urban section of the Housing Department, LCC initiated the Task Force with the cooperation of the subcontractors, NGOs and consultants. Task Force meeting was held every month.

JST member supervised the implementation of the pilot projects. A team of Japanese members and local members carried out supervision work on the progress the pilot projects. The result of the supervision was summarized in the progress chart as shown in Figure 5.4.1 and reported to the Steering Committee periodically.



The Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka in the Republic of Zambia

Japan International Cooperation Agency

Figure 5.4.1
A Sample of Monthly Progress Report

CHAPTER 6 EVALUATION OF PILOT PROJECTS

6.1 Evaluation Methodology

(1) Background

JST reviewed the pilot projects in terms of "Efficiency", "Effectiveness", "Impact", "Relevance" and "Sustainability. The Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) also recommend the evaluation of a project not only for its achievements, but also on broader-based criteria.

Evaluation exercises were carried out in October and November 2000 (July 2000 for Health and Hygiene Improvement Projects) in order to review the implementation process and assess results of the pilot projects. The evaluation was planned and conducted by members of JST, LCC, sub-contractors and the community. The flow of project process, monitoring and evaluation and their linkages is described in Figure 6.1.1.

(2) Five Evaluation Criteria

5 criteria	Description
Efficiency	Measures productivity of the implementation process and how efficiently inputs are converted into outputs
Effectiveness	Measures the achievement of project purpose relative to the degree to which the outputs have contributed to its achievement
Impact	Positive and negative changes propagated directly or indirectly, as the result of project implementation
Relevance	Relevance of outputs, project purpose and overall goal to the priority needs and concerns of the recipient society and the nation at the time of evaluation
Sustainability	Extent to which the recipient country's institutions can continue to pursue the project benefits after external aid is terminated

(3) Evaluation Indicators

Table 6.1.1 presents the indicators used to assess the five evaluation criteria in each project component. These indicators were developed for each of the five evaluation criteria and include indicators selected by the community for monitoring their project progress and those indicators described in the Project Design Matrix (PDM) prepared by JST at the beginning of the study. Evaluation results using these indicators are described in Evaluation Matrix. In order to make the final, overall evaluation of the project, the weight and value of the findings of the evaluation indicators were determined. Values used are:

(++) Very well achieved, (+) Mostly achieved, (-) Not well achieved and
(H) High weight, (M) Middle weight, (L) Low weight

Based on the judgement of five evaluation criteria shown above, the overall conclusion of the project can be drawn (See Evaluation Summary of each Project in Chapter 5.2).

5 criteria	Values used to draw conclusions of 5 evaluation criteria
Efficiency	High, Slightly high, Slightly low, Low
Effectiveness	Achieved, Mostly achieved, Not Achieved
Impact	Both Negative and Positive impacts are observed, More Negative than Positive impacts More Positive than Negative impacts
Relevance	High, Slightly high, Slightly low, Low
Sustainability	High, Slightly high, Slightly low, Low

(4) Collection and Analysis of Evaluation Data

The six main methods of data collection and analysis used in the evaluation were:

- Analysis of community monitoring sheets, task force meeting minutes, and progress reports of subcontractors
- Focus group discussions
  Gatherings of small groups of people (both active and not active in the project) to discuss specific topics in detail.
- Key Informant Interviews
  Interviews with key individuals who were involved in the project to gain detailed/qualitative information.
- Structured interviews of beneficiaries
  Interviews with individual beneficiaries (income generation and latrine projects) using structured questionnaires to gain detailed/qualitative information.
- Participatory evaluation workshops (CAP workshop)
  Gatherings of all stakeholders to review the project implementation process, present data and information collected from above methods, and assess and build consensus on evaluation results.
- Baseline/Post-project household surveys

Household surveys carried out by subcontractor (external to the study) to collect post-pilot project data by semi-structured questionnaire on water and sanitation related issues (Bauleni and Chibolya), community school (Chibolya), and road (Ng'ombe) in order to analyse and assess the impact of the pilot study quantitatively and make recommendations regarding future projects.

Table 6.1.1 Evaluation Indicators Used to Assess Five Evaluation Criteria in Each Project (1/2)

Project	*Efficiency*	*Effectiveness*	*Impact*	*Relevance*	*Sustainability*
Water	1. Community provides volunteer labour for construction (skilled and unskilled) 2. Training in O&M and financial management is sufficient, meets needs, and is cost efficient 3. Water Committee (WC) is established under RDC 4. Water supply system is installed and operational according to schedule 5. LCC/LWSC/JST/subcontractors/community collaborate to implement project 6. Construction materials and technique are affordable, durable and appropriate	1. Monthly monitoring is conducted by RDC/WC 2. Simple maintenance is undertaken by community without external assistance 3. Water supply system is managed by RDC/WC in collaboration with LCC 4. There is no vandalism during and after construction 5. Community is willing to pay water levy 6. O&M system is developed and O&M resources (funds, technicians, tools) are provided	1. RDC is better known in community due to project activities 2. New RDC subcommittees are formed 3. Politicians demonstrate support for RDC projects and activities 4. Housing and population in the area of the water supply increases 5. Daily water usage increases 6. Distance to water source and collection time decrease 7. Greater percentage of households have access to and use safe water supply 8. Frequency of hand washing, bathing and laundry is increased	1. Water supply meets priority need of community 2. Project purpose is consistent with policies and strategies of MLGH/LCC/LWSC 3. Project purpose and approach are consistent with other donors/NGOs 4. Water infrastructure, water quality and service level meet LWSC standards	1. RDC/WC are collecting and banking water levies (for recurrent costs, maintenance and capital replacement) 2. Revenue collected is sufficient to cover expenses 3. RDC/WC members are stable and understand and perform O&M roles 4. Security system is established and functioning 5. Tap Attendants are able and willing to carry out roles according to agreed upon conditions of service 6. Water scheme managers have office/base to work from 7. LCC/LWSC/Contractor/NGO provide necessary support to RDC/WC on technical, management and financial matters 8. Necessary tools, backup spares and manuals are available for O&M
Road	1. Community provides volunteer labour for construction (skilled and unskilled) 2. Training in O&M and financial management is sufficient, meets needs, and is cost efficient 3. Road Committee (RC) is established under RDC 4. Road and drainages are improved according to schedule 5. LCC/JST/sub-contractors/community collaborate to implement project 6. Construction materials and technique are affordable, durable and appropriate	1. Monthly monitoring is conducted by RDC/RC 2. Simple maintenance is undertaken by community without external assistance 3. Road and drainages are managed by RDC/RC in collaboration with LCC 4. There is no vandalism during and after construction 5. Community is willing to pay road levy 6. Garbage in ditch is properly disposed 7. O&M system is developed and O&M resources (funds, technicians, tools) are provided	1. RDC is better known in community due to project activities 2. New RDC subcommittees are formed 3. Politicians demonstrate support for RDC/RC projects and activities 4. Access to community infrastructure and public transport is improved 5. Business activities increase 6. Sanitation is improved 7. Traffic volume increases 8. Vehicle speed and danger to pedestrians are increased	1. Improved road meets one of priority needs of community 2. Road meets expectations of community 3. Project purpose is consistent with policies and strategies of MLGH and LCC 4. Road project is integrated with other needs	1. RDC/RC are collecting and banking road levies (for future maintenance expenses) 2. Revenue collected is sufficient to cover expenses 3. RDC/RC members are stable and understand and perform O&M roles 4. Security system is established and functioning 5. Community is willing to provide resources (money, tools, materials & labour) to maintain the road 6. LCC officers provide on-going support
Community School	1. Material costs were cost effective than standard government school. 2. Participation makes less labour cost. 3. Construction materials are delivered on time. 4. School facilities are built on time. 5. Construction period is shorter than average school construction.	1. Orphans, girls and underprivileged children are prioritised for enrolment 2. Level of community participation in planning, construction process. 3. Number of voluntary workers. 4. Teachers' training is organised properly.	1. Awareness of value and importance of education among community people. 2. Number of children to be enrolled out of total out-of-school children. 3. Community acquired enough skills of school construction.	1. Meets the government policy of 'Education for All'. 2. Match community's priority ranking in the survey. 3. Meets the need of poor children and families.	1. Organisational set-up (EC, PTA) to develop school 2. School management and system are established. 3. Enough capacity of PTA is foreseen 4. Continuous support from experts, such as NGO, MOE and LCC.
Income Generation	1. High repayment rate. 2. Law default rate. 3. Law arrears rate. 4. All operation and programs were completed on time. 5. Loans amount is disbursed as planned	1. Repayment rate reach 90% 2. No misuse of loan fund. 3. Proper and fair selection of beneficiaries. 4. Group meeting is held every week. 5. Beneficiaries follow constitution. 6. Expenditure pattern is changed.	1. Expenditure pattern is changed. 2. Income is increased. 3. Skills and knowledge of business and financial management are enhance. 4. Beneficiaries feel more self-reliant and confidence.	1. Match the national policy of 'poverty reduction' 2. Meets the needs of poverty reduction in the community. 3. Reach the poorest residents.	1. Sustainability index 2. Amount of revolving fund. 3. Possibility of fund source from donors for next phase. 4. Degree of group solidarity and responsibility. 5. Group meeting on weekly basis. 6. NGO can continuously provide financial and technical assistance.

Table 6.1.1 Evaluation Indicators Used to Assess Five Evaluation Criteria in Each Project (2/2)

Project	*Efficiency*	*Effectiveness*	*Impact*	*Relevance*	*Sustainability*
Community -based Health and Hygiene Education	1. A health educators group to facilitate the community health activities in place 2. Monthly progress monitoring is conducted by HEG and supervised by LCC 3. Monthly meetings are held independently by HEG/RDC 4. More than 25% of target population is covered under outreach household visits by HEG 5. Four health educational drama performances were conducted in the community 6. Satisfaction level on the course module (program) is more than 80% 7. Satisfaction level on the training manual (handouts) is more than 80% 8. Inputs are appropriate amount/quality 9. HEG members knowledge and skills are improved	1. Trained HEG members(20) continue working and dropouts are replaced 2. A workplan beyond the project period is developed and implemented by RDC/HEG 3. Door-to-door visits are continued by HEG after withdrawal of Africare	1. The model was applied to outside the target beneficiaries (other zones) 2. Health educators are empowered (respected by community/family) 3. Good cooperation between health educators& LCG to identify household who needs good VIP 4. HEG and NHC work hand in hand and it does not cause conflict	1. Project strategy is in line with current CBO (central board of health) policy on community volunteer 2. It satisfies needs felt not only by the community but also help community work done by the clinic	1. Incentive mechanism and operational cost for HEG to remain active is established 2. 80% of the trained HEGs continue educating the community 3. Active members to become health educators are reselected for expansion of the program
School-based Health and Hygiene Education	1. A committee (composed of teachers, pupils and parents) to facilitate the school health activities in place 2. SHCC weekly meetings are held as scheduled 3. Satisfaction level on the course module (program) is more than 80% 4. Satisfaction level on the training manual (handouts) is more than 80% 5. Inputs are appropriate amount/quality 6. SHCC members knowledge and skills are improved 7. Two community mobilisation meetings were held as per planned 8. Two health educational drama performances were conducted in the school/community as per planned	1. Trained SHCC members(12 people) continue working and dropouts are replaced 2. A workplan for during and after the project period is developed and implemented by RDC/HEG 3. Health Education Activities are continued	1. The model was applicable to other schools 2. School and Community communication and collaboration is improved 3. SHCC and the community started communicating more and work hand in hand	1. The project strategy is in line with current MOE policy on child to child 2. It satisfies needs felt not only by the school but also assist work should be done by the clinic	1. Organizational income generating activities to generate operational cost for SHCC to remain active is established 2. Follow up action plan is made 3. Continuous follow up training and supervision is going to be held by CARE
Home/Demonstrative Communal VIP Latrine	1. Forty-two(42)VIP latrines are installed as scheduled 2. Satisfaction level on the course module (program) is more than 80% 3. Satisfaction on the training manual (handouts) is more than 80% 4. 80% of the bricklayers (LCG: Latrine Construction Group) who received training remain active to build VIP latrines 5. Inputs are appropriate amount/quality 6. Input(construction materials) are provided at right timing	1. The strategy developed was acceptable to 80% of beneficiaries 2. Damage observed/reported on less than 20% of all VIP latrines installed by the community 3. Unsanitary conditions in less than 20% of all VIP latrines installed by the community 4. Utilization(or willingness to use) of home VIP latrine is higher than 90%	1. The model is applied to outside the target beneficiaries 2. Value added houses are increased (+ impact for landlord) 3. Women bricklayers are empowered (generate income, respected by community/family) 4. Good cooperation between health educators& LCG to identify household who needs good VIP	1. The strategy is in line with current central and local government's policy on public health/water and sanitation 2. The model developed satisfies needs of the middle-high income family 3. The model developed satisfy needs of the low income family	1. LCGs continue building and training community for installation of VIP latrines in the community 2. LCG built organizational capacity 3. Supporting groups continue promoting VIP latrine and monitoring/supervision is properly implemented 4. Funding source for construction materials (50-80%range of the total cost) is ensured
Demonstrative Communal VIP Latrine	1. Two VIP latrines (one double pit) are installed as scheduled at right site 2. Satisfaction level on the course module(program) is more than 80% 3. Satisfaction level on the training manual (handouts) is more than 80% 4. 80% of the bricklayers (LCG) remain active to build VIP latrines 5. Inputs are appropriate amount/quality 6. Input are provided at right timing	1. Damage is not observed on the communal demo VIP latrine installed 2. Unsanitary conditions not observed in the communal demo VIP latrine installed 3. Utilization of the communal demo VIP latrine is increased every month	1. The VIP latrine model is applied to outside the target beneficiaries 2. Bricklayers are empowered (generate income, respected by community/family) 3. Good cooperation between health educators & LCG to identify household who needs good VIP 4. The VIP latrine constructed is not vandalized	1. The strategy is in line with current central and local government's policy on public health/water and sanitation 2. The model developed satisfies needs of the community middle-high income family	1. LCGs continue building and training community for installation of VIP latrine technology 2. LCG is supervised by RDC and built organizational capacity 3. Supporting groups continue promoting VIP latrine and monitor/supervise the model is properly implemented 4. Funding source for construction materials for additional communal VIP latrines and home VIP latrines is determined 5. Additional communal latrine location is identified 6. Proposal for VIP latrine project in Chibolya is prepared

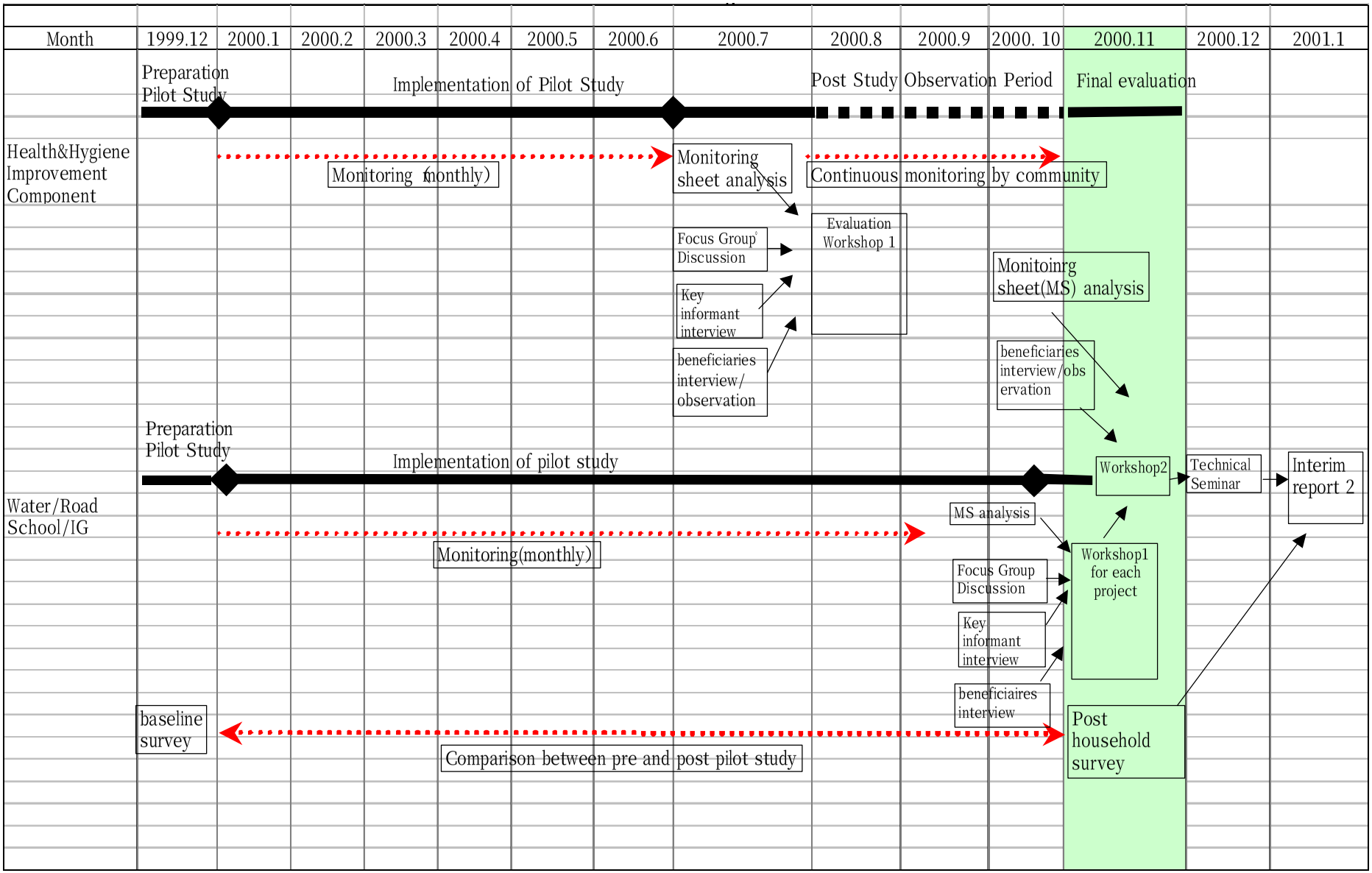


Figure 6.1.1 Flow of Monitoring and Evaluation

6.2 Evaluation and Lessons of Pilot Projects

6.2.1 Water Supply System Improvement Project in Bauleni

(1) Community Participation

The following table provides an overview of the ways and extent to which community leaders and residents participated in the water project.

Level of Community Participation in Bauleni Water Project

Activity	Level	Basis
Needs assessment and problems analysis	High	Explored by community in participatory workshop
Project plan and design	Medium	Time schedule and approach set by donor Community provided input to labor contribution and work schedule
Design of infrastructure	Low	Designed by contractor
Siting of infrastructure	Medium	Community provided input
Community sensitization & mobilization	High	Responsibility of RDC
Training	Medium	General needs assessment carried out
Construction		
Borehole	None	Completed by contractor
Tank and stand	None	Completed by contractor
Tap stands & soakaways	Medium	15 male laborers employed Women excluded
Trench digging	Medium	25 male laborers employed Women excluded
Pipe laying	Low	Completed by contractor
Backfilling of trenches	High	Many residents mobilized on voluntary basis
Pump house and wall fence	Medium	6-7 bricklayers employed Women excluded
Project monitoring and evaluation	Medium	RDC monitored progress according to work schedule and indicators JST retained responsibility for M&E
Operation and Maintenance (O&M)	High	RDC given full responsibility for O&M
Financial Management	High	RDC give full responsibility for FM

As the table shows, the community assisted the engineering contractor in construction of the water system, but primarily on a paid basis. There was no opportunity to provide input on design. Only during the backfilling were a large number of people mobilized on a volunteer basis. The RDC was a key factor in the excellent working relations among stakeholders and smooth implementation of the project.

During implementation, the RDC and newly identified Tap Attendants (TAs) were receiving training for O&M and Financial Management (FM) in addition to coordinating with other water providers. Eleven of the 12 initial TAs were women. During project implementation, their function was monitoring pipe routes and tap

stand areas so they were not encroached upon, monitoring progress, participating in the backfilling of trenches, and attending workshops and training courses.

It is noteworthy that although women applied and were qualified for some of the paid positions, only men were hired. Women, however, were more active in the workshops and training exercises related to the project. The community attributed women's greater involvement to men working outside the settlement, water being primarily a women's concern, and the fact that men are less willing to do unpaid community work. Some noted that men would rather participate in politics than voluntary work.

TAs were on board to operate the taps early in the project, but clearly had expectations for a decent wage. They did not see the role as community work, but rather as a job. Therefore, there was a high dropout rate after it became clear how much money they could earn on a commission basis considering the number of paid users. It would also follow logically that if residents are paid for construction work, they should also be paid for O&M.

(2) Community Management

In effect, the water committee of Bauleni is the handful of RDC members who are actively involved in operating and managing the water scheme on a day-to-day basis. There is no middle (subcommittee) level between the TAs and the RDC. Although pressure was placed on the RDC to organize both a general water committee and separate committee to run the JICA scheme, it became clear that it would be difficult to find committed volunteers.

At present, a handful of RDC members are carrying out the roles of pump operator, cashier, and accountant on a volunteer basis, while TAs and a security guard are working on a paid basis. The table below illustrates strengths and weaknesses of the current management system, which is still undergoing significant change.

Strengths and Weaknesses of Bauleni Water Scheme Management

What	Positive	Negative	Future Prospect
Pump operation	RDC Chair is a qualified engineer and carrying out role on voluntary basis	One person holds too much responsibility. Successor may not be as qualified.	Groom other community members to operate pump. Position to become paid based on sufficient revenue.
Tap operation	TAs willing to full time 7 days/week. Some TAs actively recruiting users and encouraging payment.	TAs expect wage rather than commission. Some TAs misusing user fees. High potential for burnout due to conditions of work.	Until scheme is more established and profitable, solutions to reducing burden on TAs and running taps on a volunteer basis must be explored.
Maintenance	System is new and has one-year guarantee from contractor. Skills for routine work available in community. RDC has good working relationship with LWSC.	Maintenance team not yet established. Recruiting volunteer labor likely to be difficult. No back-up spares in stock.	Strong potential to form linkages with other water providers including LWSC, PoCMUS and HUZA. Establishing a joint maintenance team would be more efficient for all providers.
Security	Locking system for taps in place. Security guard employed to guard borehole and tank at night. Community is safeguarding taps.	Expensive to employ security guard for small scheme. No daytime security guard at present. Tank is accessible and the ladder attracts children and adults.	Build fence around tank to prevent access. Establish neighborhood watch committees to safeguard infrastructure on volunteer basis.
Financial management	RDC has opened water scheme bank account. RDC is serving as cashier and accountant on voluntary basis. Stationery and record books have been purchased. LCC is providing support on accounting procedures.	Banking is expensive (transport costs) and inconvenient. Some misuse of funds by TAs. No adequate cash collection point. No adequate place to keep books.	RDC has recognized that a small office is needed to collect user fees and keep books. RDC is exploring possibility to establish centrally located joint office with other water providers.

The start-up problems experienced in Bauleni are due to a variety of factors including the fact that the new scheme is competing with free water provided by LWSC. Any small business takes time to be profitable and financial sustainability can not be achieved at the start. It is generally accepted that RDCs will receive some compensation for their role in water supply management, but the issue of whether individuals will be paid and if so how much and on what basis, requires close examination and clear consensus among all concerned.

Managing a water scheme on primarily a volunteer basis requires a strong self-help ethic in the community and willingness to work together for common goals. Sensitization is required to foster the right spirit and attitude to achieve this goal. On the other hand, managing the scheme as a profitable business requires close examination of revenue and expenses, sound financial management, and knowledge and application of business principles. Like any small business, start-up capital is essential.

LWSC at present is not in a position to support O&M activities of community water schemes, except to provide technical assistance on a paid basis. They are a private firm concerned with profitability and simply do not have the staff to provide adequate support on the management side. The dire financial situation of LCC also means that they can only provide minimal support to RDCs due to lack of expertise and other resources (transport, computers, funds, etc.). Considering these factors, settlement water schemes must be planned to be fairly self-sufficient, with a provision for on-going support by the donor or implementing NGO.

(3) Consolidation of Water Providers

Lusaka Water and Sewerage Company (LWSC) is the main provider of water to Bauleni covering about 60% of the population. At the time of the initial survey, the system was found to have low pressure and a lot of leakage. LWSC water is not treated and the poor condition of the pipes means the water is often dirty. However, to date, residents are opting for the free water provided by LWSC rather than safe water that must be paid for through the JICA scheme. The fact indicated that the same situation will be happened within the water supply area by LWSC in Bauleni if improved by the pilot scheme.

Although LWSC policies call for cost recovery in the urban settlements, they have not yet implemented a payment system in Bauleni. Project organizers were well aware of the adverse impact if this would have on the new pilot scheme, thus negotiations with the firm were stepped up. LWSC has now committed to begin charging the standard water levy to their consumers, but constraints remain. Because the physical condition of the LWSC water supply network is so poor, even with a payment system, residents will still be able to collect water after hours free of charge because of the vast number of leakages. There are also numerous private connections, so those individuals can also provide water if not closely monitored.

As of November, the second full month of operation, there were 294 paid monthly users of the pilot scheme, approximately 40% of households in zones 8 and 13.

This low number is due primarily to easy access to free LWSC water. The number and proportion of households subscribing to the pilot scheme are expected to increase over time as people's awareness is raised, population increases, and levies are harmonized. It may take time to achieve the target of 400 households.

The RDC has the goal of consolidating the various water schemes even further. Other stakeholders support this plan but it is likely to take years to realize.

(4) Impact

1) Daily water usage

A greater percentage of households using the new water scheme are using more than 150 liters of water daily compared to the average household at the time of the baseline survey. As would be expected, the largest number of households reported using 10 containers (200 liters) per day—the quantity allocated to users of the scheme. However, many households reported using less than this amount, and just two reported using more. The comparative data are as follows:

Quantity of Water Used Daily (approximate percent of households)

Volume of Water	**Baseline** (all households)	**Post project** (users of new scheme only)
Less than 50 liters	17%	5%
50 – 100 liters	60%	43%
100 – 150 liters	15%	12%
150+ liters	8%	40%

Source: Household survey 1 and 2, JST (December 2000)

Only about 10% of users said they required more water, most giving 15 containers as the desired amount. All households reported using the water for the scheme for the purposes of drinking, cooking, bathing, and laundry. The percentage of households drawing water daily increased slightly from 89% to 98%, which is consistent with the higher water consumption and accessibility.

2) Payment for water

Before the new water scheme, most households (84.5%) in Zones 8 and 13 paid for their water, and indicated the amount was less than K10,000 per month. According to information provided by the RDC Chair, many were paying K5,000/month user fees to a church in the area that was running one of the LWSC taps on a commercial basis even though they were not paying to LWSC themselves. The post-project household survey found that 99% of residents surveyed now paid K3,000 per month for water. Although the

initial household survey did not collect specific data to compare the change, it seems likely that many households were paying less for water after the new scheme was built.

3) Time use

As expected, the time required to walk to the water source and draw water are significantly less than the pre-project average for users of the new water scheme. Before, one-quarter of households spent more than 15 minutes to walk to the water source (one way), but no users of the new scheme reported taking more than 15 minutes. More significantly, over three-quarters of the households in the baseline survey reported spending more than 30 minutes to queue and draw water whereas three-quarters of the users of the new scheme said they spent less than five minutes for the same. The data are as follows:

Time	**Time taken to water source**	
	Baseline (all households)	**Post-project** (users of new scheme only)
Less than 5 minutes	30%	88%
6 – 15 minutes	45%	12%
16 – 30 minutes	16%	--
More than 30 minutes	9%	--

Source: Household survey 1 and 2, JST

Time	**Time taken to queue and draw water**	
	Baseline (all households)	**Post-project** (users of new scheme only)
Less than 5 minutes	6%	76%
6 – 15 minutes	9%	21%
16 – 30 minutes	8%	2%
More than 30 minutes	77%	1%

Source: Household survey 1 and 2, JST

4) Hygiene

Two-thirds of households interviewed said that family members wash hands, bathe, and wash clothes more frequently since using the new water supply.

(5) Capacity Building

The project provided training in O&M and financial management (FM) as well as exchange visits to other water schemes. The training sessions covered a broad range of topics, but could have been more practically oriented. For instance, the management training was held before user cards, receipt books and other stationery was printed. Participants did not have the opportunity to practice the procedures they would be carrying out on the job. Also, general accounting

principles were presented rather than for instance setting up accounting books for the specific management of the water scheme. When hiring trainers from outside the project, close communication between project managers and training institutions are necessary to ensure that the content and level of training are appropriate. A lot of effort is required to tailor a training course to meet specific needs. Community participants evaluated the training sessions as useful, but as the water scheme became operational, slight gaps in training were recognized by both the community and JST.

It is also very important to ensure that those receiving training are committed to stay with the project, transfer skills to other residents, and apply what they have learned on-the-job. For FM in particular, close support is necessary in the first several months of operation to establish accounts and financial procedures.

Bauleni leaders went on a one-day exchange visit to water schemes in four other compounds, which was deemed highly useful. The variety of water schemes operating in Lusaka provide a good opportunity for newcomers to build on other's experiences, as well as to share knowledge and skills. Long-term exchanges should also be considered.

Turnover of RDC leaders needs to be considered when designing institution building components. Formal elections are held every three years, but because the ABO structure is still relatively new and not well understood, there has been a high dropout rate. In Bauleni, half of those elected to the Forum of Zone Representatives (the body which elects the RDC) are inactive after two years. The RDC now has a small office which has aided them to carry out their role, but even in Bauleni which has had an RDC for over 10 years and been involved in many projects, people are still not well aware of zone demarcation and leadership. When the RDC is the entry point for projects, community participation in the ABO structure will have a direct impact on community participation in the project.

Project objectives and outputs are evaluated according to the indicators presented in Table 6.1.1.

(6) Evaluation

The results of evaluation summary (Table 6.2.1) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for

this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.1 Evaluation Summary- Bauleni Water Improvement Pilot Project

Criteria	Result	Justification
Efficiency	Slightly high	▪ RDC played a key role in project implementation. ▪ RDC has only a few active members, but they have high capacity. ▪ The establishment of water committees (WC) was not necessary, because RDC and Tap Attendants (TAs) could take over the role. ▪ O&M and financial management trainings lacked practical orientation. ▪ Over 60% of residents participated in project, but poor gender balance. ▪ O&M system is still being developed following actual operation. ▪ Harmonization of water levies not yet achieved. ▪ Technology is sound, but community was not consulted on stand post design.
Effective-ness	Mostly achieved	▪ RDC is operating water supply system with assistance of Tap Attendants (TAs). ▪ Volunteers for WC became TAs, leaving RDC directly in charge of water. ▪ TAs are demanding wages rather than commission for their efforts. ▪ O&M funds are being raised through water levies. Willingness to pay is affected by access to free water by LWSC. ▪ Security system is in place and only a few cases of petty vandalism reported.
Impact	More positive than negative impacts	▪ Population of the 2 zones has increased by about 50% over a year period. ▪ Daily household water usage has increased, along with frequency of hand washing, bathing and laundry. ▪ People spend significantly less time collecting water. ▪ RDC has made headway on consolidating all water projects.
Relevance	High	▪ Met the community's priority need for water. ▪ Consistent with government policy of promoting community participation. ▪ Compatible with approach of other water providers, donors and NGOs.
Sustain-ability	Slightly high	▪ RDC has strong commitment and skills. ▪ Financial sustainability requires time to achieve. ▪ Revenue collection is constrained by access to free water. ▪ Some dissatisfaction among TAs with pay and conditions of work, but issues are being addressed. ▪ Lack of office space creates difficulty for management. ▪ Community is able and willing to pay water levies.
Conclusion		▪ Project implementation process provided good understanding of strengths and weaknesses of ABO structure. ▪ Training and other capacity building exercises require close support and guidance from project managers to be effective. ▪ It is important to clarify what incentives people who participate in the operation of the water supply will receive. ▪ Much attention is required to address the issue of access to free water. Financial sustainability requires careful examination.
Recommendations		▪ Project time frame should be sufficient to allow support following operation. ▪ Project evaluation needs to be scheduled several months following operation. ▪ Start-up operation costs and grant to capital replacement fund should be provided by donor. ▪ Project should include office space for revenue collection and management. ▪ Project plan should include security system for water infrastructure.
Lessons learnt		▪ Need to address the issue of community work vs. paid labor for O&M. ▪ Need to be flexible regarding community management structure. ▪ Sustainability is directly affected by decisions/actions of other water providers. ▪ Housing development must be catered for in project plans.

6.2.2 Water Supply System Improvement Project in Chibolya

(1) Status of 5 JST Water Points in Zones 4, 5 and 6

Four of the five JST water points are operational as of late November 2000, slightly over 2 months behind schedule.

(2) Status of Remaining Area (as of March 1, 2001)

(a) Remaining construction works by CARE include: installation of automatic chlorination system and meters.

(b) Remaining construction works by community (with supervision of CARE) include: completion of 5 water points construction and connection, and soakaway construction.

(c) Estimated operation date for whole compound: April 2001.

(3) Cause of Delays

The main cause of the delays was the late signing of the new contract between CP and the engineering contractor, Rankin. This was due to the bureaucratic processes of CP's donor agency, DfID. In addition, some of the required imported equipment was not available, although parts were borrowed from other projects or substituted. Phase II works also depend on the success of community mobilization, although CP reported that the Chibolya community has completed the works in record time.

(4) Community Response to Integration Plan

Chibolya RDC expressed their concern at the beginning over the plan to integrate the pilot scheme with CP. These doubts continued during project implementation. Including the RDC in the MOU might have reduced some of their concerns, but in general the group lacks experience working with donors. In fact, the RDC reports that JST is the first donor to implement projects through the ABO structure. Working with two donors simultaneously with slightly different approaches seemed to overwhelm the RDC. Consequently, much effort was required to overcome obstacles.

(5) Collaboration among Stakeholders

Although the CP-JST MOU called for regular meetings involving all stakeholders, this was not fully achieved due to the short time frame of implementation and the logistics of getting all parties together. This resulted in some breakdown in communication especially concerning the delays. Whereas JST was pressing to continue operating the pilot scheme on the time frame committed to, CP had other priorities and concerns.

JST was also following the lead of CP with regard to the management structure. JST had been made well aware of CP's interest in establishing a pilot system that would be consistent with the overall financial management system, therefore decisions on financial management were made in meetings involving CP, JST and RDC. Postponed meetings resulted in delayed action. Therefore, last minute efforts were made to put arrangements in place by the time the water was flowing. The logistics of opening a bank account, designing and printing stationery, and selecting a cashier and cash collection point proved more difficult and time consuming than expected. The process of these tasks should begin at least two months before the end of construction and the project budget should include funds for printing, office supplies, initial bank deposits, and the like. Community leaders can take the lead role in making purchases and opening bank accounts, but it is important that project managers and LCC staff oversee the actions to ensure transparency and honesty in all decisions.

(6) Community Participation

The division of construction works between the contractor and community is shown in section 5.3.2. Residents of both Bauleni and Chibolya participated to the same degree in the early stages of the project under JST (needs assessment, design, community mobilization), but had slightly different experiences during the construction period due to integration with CARE as well as time constraints. Whereas in Bauleni, residents were employed to construct tap stands and soakaways and dig trenches, in Chibolya the tap stands and soakaways were constructed by volunteers, while trench digging was carried out by the contractor due to the rocky conditions. The table below shows the level of participation by project activity.

Level of Community Participation in Chibolya Water Project

Activity	Level	Basis
Needs assessment and problems analysis	High	Explored by community in participatory workshop
Project plan and design	Medium	Time schedule and approach set by donor Community provided input to work schedule of volunteer laborers
Design of infrastructure	Low	Community provided input
Siting of infrastructure	Medium	Community provided input
Community sensitization & mobilization	High	Responsibility of RDC
Training	Medium	General needs assessment carried out
Construction		
Borehole	None	Completed by subcontractor
Tank, stand & wall fence	None	Completed by subcontractor
Tap stands & soakaways	High	Constructed by community volunteers (men and women) under supervision of CARE and subcontractor
Trench digging	Low	Completed by subcontractor due to rocky conditions, but resident volunteers helped clear soil from the trenches when pipes were laid
Pipe laying	Medium	Completed by subcontractor in JST area due to time constraints (in other areas, pipe laying was carried out by volunteer laborers)
Backfilling of trenches	High	Completed by community on voluntary basis
Pump house and wall fence	None	Built by subcontractor
Project monitoring and evaluation	Medium	RDC on site to monitor progress and report on any problems JST retained responsibility for M&E
Operation and Maintenance (O&M)	High	Not yet determined
Financial Management	High	Not yet determined

(7) Community Mobilization

As mentioned above, the RDC was highly successful in mobilizing volunteer community labor to carry out the required works. People were recruited through zone leaders and it was decided that residents would lay pipes in their zones. But many volunteered to work in other zones because they wanted to speed up the works before the arrival of the rainy season. Although it was agreed that women would work from 8:00 – 10:00 and men from 8:00 – 11:00, many people were working until 15:00 or 16:00 without receiving any food or drink. They worked 6 days per week. People understood the project was for their own benefit, and were anxious to see the water flow.

In the JST project area it was estimated by leaders that about 60 people were involved, two-thirds of them women. It is possible that numbers were even higher because the post-project survey found that 64% of 300 households reported participating in the project, mainly through labor provision. Boys and girls aged

over 10 years were also active in quite large numbers. The main work carried out by the community was finishing trench digging and backfilling. They also helped to build the tap stands and soakaways.

The RDC also had success in forming a water committee (WC) and finding tap attendants (TAs). Members walked through the zones with a megaphone asking people to volunteer. The WC has 5 men and 5 women and they've been in place for one year. TAs are 4 women and 1 man. Both of these groups were involved in the construction works along with the RDC members who were encouraging by example and were out there doing physical labor along with everyone else.

The newness of the RDC and lack of donor involvement in Chibolya appears to have both positive and negative ramifications. On the one hand, most of the RDC members were very enthusiastic about the project and this positive attitude was carried into the community resulting in the successful recruitment of volunteers and formation of a water committee. But on the other hand, due to lack of experience in community development work and working with donors, some RDC members were overbearing, unwilling to negotiate, and tried to take advantage of the project for personal gain.

Bauleni was a different case, where enthusiasm was cautious at the beginning and grew over time as the project progressed. The community had a much longer history of participation in community development (through the ABO structure) and interventions by donors, some of which had been successful and others less so. Anyway, the atmosphere was different from Chibolya where people were still discovering what volunteer community work was all about and were keen to get involved.

(8) Institutionalization of the RDC

The RDC is new but already well known, at least in the pilot project area of zones 4 and 5. In the post-project survey, 48% of residents could name the RDC Chairperson, another 40% had attended a zone meeting, 36% could name one of the Forum members in their zone, 89% were aware of the water committee, and 48% had attended a meeting related to the water project.

The comparative figures from pre-project are not known, but it is likely that RDC involvement in the project has been the main factor in this relatively high level of awareness. Over the past year, the RDC has become more established by opening a bank account and registering with the Registrar of Societies, both called for under the RDC constitution.

(9) Water Management Model for Chibolya

Discussions are still on going between CP and the RDC to select the most appropriate management model for the community. Until integration, JST had been working with the RDC to take responsibility for the small pilot scheme. But CP's strategy is to present different options and allow the community to select. There are 3 main options which give differing levels of control to RDC, contractor, and the NGO. The two groups have had difficulty reaching consensus. In focus group discussions, RDC members expressed their opinion that CP was trying to import management models from outside the community and impose them on Chibolya. RDC members want more community control over the management of the system, while CARE pointed out the legal implications and benefits to having outside legal advisors, financial advisors, technical advisors, etc. CARE emphasized that under the community trust model, the community is protected from legal issues that may arise. At the time of this report writing, CARE and RDC had yet to establish which management model to implement in Chibolya, i.e. determine the actual roles and responsibilities of the RDC and Water Committee.

(10) Legal Considerations

Because ABOs do not have the capability to own assets according to the constitution, LCC will be the legal owner of the assets, while the community is the symbolic owner. Therefore, LCC will be the custodian of the assets which they will lease to the community. It is possible that LCC will transfer responsibility to LWSC who would then be responsible to protect the system. RDCs are registered under the Societies Act, but a community trust would become a legal entity registered under the Lands Act.

The LCC has registered plot numbers for the Compound Planning Office, tank and borehole sites.

(11) Expected Problems

In the evaluation workshop, participants were asked to brainstorm potential problems or threats they would experience in running the water supply system. Many items were listed, including the following:

- Security issues (vandalism and theft)
- Corruption (funds mismanagement, reselling water, illegal connections, using other's user cards, etc.)
- Breakdowns (lack of funds, tools, spare parts for maintenance)
- Water pollution
- Community conflicts (fighting at tap stands, TAs showing favoritism, etc.)

- Leadership transition with no proper handover of responsibilities
- Political interference

Some of the above were actual problems during implementation, as 3 gate valves were stolen, politicians have interfered, and when the water first started flowing at the taps there were some disputes among those collecting. Anyway, it is clear that many issues related to running the water supply can arise and those in charge need good skills and adequate support to address them appropriately.

(12) Political Interference

Based on previous troubles, CP has proactively addressed the issue of political interference from the market committee, a political body that controls the Chibolya community market. In anticipation of future problems regarding territory and control of public infrastructure, CP sunk a separate borehole for the market. It is possible that during the dry season this smaller borehole will dry up. However, if a connection to the community water scheme were provided now, it is likely that the market committee would expect water free of charge while continuing to sell water, default on their payments to the community, demand representation on the water committee, etc. Therefore, CP advised the community that it is better to delay connecting the market to the community system until requested. At a later date, the community will have an established management system and much more bargaining power. Papers can be signed to protect the community from political interference from the market committee.

(13) Demand for Water

The demand for safe water closer to home in the area of the pilot scheme and Chibolya as a whole is great. At the time of the baseline survey, more than three-quarters of households used less than 100 liters of water daily, less than the 20lpcd standard. This low consumption is likely the result of poor access. The baseline survey also found that people had to walk moderate to long distances to collect water, and then more than three-quarters of households reported spending over 30 minutes queuing and drawing water. Besides the time and effort required, the situation was causing safety and security problems as well. Women had to wake up early, leave home in the dark, cross a busy road, and were sometimes accused of infidelity by their husbands due to the long hours they were spending away from home. The homes of widows and single mothers were also vulnerable to thieves. People with personal taps had taken advantage of the situation and were charging Kwacha 100 per bucket. The post-project survey, which was carried out before the pilot scheme was operational, found that the majority of households

were getting their water from a private tap and paying Kwacha 100 per bucket. Most households collected an average of 5 buckets per day, meaning their monthly water charge was as much as Kwacha 15,000 (Kwacha 500x30 days).

The new scheme should reduce the monthly amount households pay for water and the distance needed to travel. According to the household survey, the perceived benefits of the project in order of number answering are:

- Closer tap stand
- Increased water consumption
- Improved water quality
- Less expenditure on water fees
- Less waiting time
- Increased pressure

CP and residents have both noted that many people get their water from contaminated shallow wells in the compound due to poor access to safe water and old habit. Sensitizing on this issue will be a big task. Families that have been using the wells for generations are especially difficult to convince, but it is important for both health reasons and cost recovery for the water scheme. The sensitisation process involves compiling an inventory of the wells, raising awareness on the dangers of the well water, and finally burial of the contaminated wells.

(14) Results of the Integration with CARE Prospect

The integration was considered beneficial for the long-term outlook of water supply in Chibolya, and in the short-term so as not to be duplicating efforts. But since the collaboration began following the design stage and after JST had conducted workshops and signed an MOU with the community, there was quite strong resistance by the community who felt marginalized when left out of decision-making.

Delays further disillusioned the community who were expecting water by the original time table. Most of the delays were unavoidable due to bureaucracy and the fact that the whole project was carried out on a much larger scale. CP also had different concerns and priorities than JST, which created misunderstandings during implementation. Nonetheless, all stakeholders worked hard to overcome obstacles, solve problems and coordinate efforts. Chibolya will have a safe reliable water supply within the next few months.

(15) Impact

1) Daily water usage

Chibolya has also had a greater percentage of households that are using more than 150 litres per day after the new water scheme. As the following table shows, when the baseline survey was conducted, about 60% of households could get less than 100 litres a day but as would be expected, majority (70%) reported using 100-200 litres after the new water scheme. It is discovered that average water use per household is 132 litres (6.6 containers) a day.

All households reported using the water for the purpose of drinking, cooking, bathing and laundry. 13% of respondents were from outside zone 4&5, which means the new water scheme greatly benefit a number of residents in Chibolya.

Quantity of Water Used Daily (approximate percent of households)

Volume of water	**Baseline** (all households)	**Post project** (users of new scheme only)
Less than 50 litres	17.9%	13%
50-100 litres	59.7%	17%
100-150 litres	13.6%	30%
150+ litres	8.8%	40%

Source : Household survey 1&2 (December 2000)

2) Time use

As expected, the time required to walk to the water source and draw water significantly decreased compared to pre-project average for users of the new water scheme. Prior to the new water scheme, majority spent more than 5 minutes to wale to the water source (one way), but the new scheme enable them to take less than 5 minutes. Also more significantly, nearly 80% of households had to spend more than 30 minutes to queue and draw water whereas more than 90 % of users of the new scheme said they spent less than five minutes for the same. The following table show the data for time to walk and queue.

Walking Time to Water Source

Time	Baseline (all households)	Post-project (users of new scheme only)
Less than 5 minutes	25.3%	96%
6-15 minutes	48.9%	4%
16-30 minutes	18.4%	-
More than 30 minutes	1.2%	-
No answer	1.2%	-

Source: Household Survey 1&2 (December 2000)

Queuing Time at the Water Taps

Time	Baseline (all households)	Post-project (users of new scheme only)
Less than 5 minutes	4.5%	93%
6-15 minutes	6.7%	7%
16-30 minutes	7.6%	-
More than 30 minutes	78.3%	-
No answer	2.9%	-

Source: Household Survey 1&2 (December 2000)

(16) Evaluation

The results of evaluation summary (Table 6.2.2) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.2 Evaluation Summary - Chibolya Water Improvement Pilot Project

Criteria	Result	Basis
Efficiency	Slightly high	▪ RDC played a key role in project implementation, but they strongly resisted the integration with the partner NGO and consensus was often difficult to reach ▪ Water Committee (WC) was established ▪ O&M and financial management trainings lacked practical orientation ▪ High degree of community participation (nearly two-thirds of residents) ▪ O&M system is still being developed ▪ Pilot scheme area is operational
Effective-ness	Mostly achieved	▪ RDC is operating pilot area of water supply system with assistance of WC, Tap Attendants (TAs), contractor and partner NGO ▪ NGO and community will decide most appropriate permanent management structure partly based on results of trial operation ▪ Temporary financial management system is being put in place with support of partner NGO ▪ O&M funds will be raised through water levies ▪ Some incidences of theft occurred during construction
Impact	More positive than negative impact	▪ More community awareness of role of RDC & RDC subcommittees formed ▪ Capacities improved through training and participation ▪ (Too early to assess social impact)
Relevance	High	▪ Met the community's priority need for water ▪ Consistent with government policy of promoting community participation in environmental improvement ▪ Compatible with approach of other water providers, donors and NGOs
Sustain-ability	Slightly high	▪ Office space is being provided by partner NGO ▪ Partner NGO has sound experience in developing community-managed water supply schemes in urban settlements ▪ NGO will provide on-going support during initial period of operation ▪ RDC is highly motivated to operate and maintain water system ▪ Majority of residents are already paying for water
Conclusion		Obstacles are more likely to occur when working with an inexperienced RDC. Project implementation process provided good understanding of strengths and weaknesses of ABO structure. Training and other capacity building exercises require close support and guidance from project managers to be effective. Integrating the project with NGO caused delays and some misunderstandings on time frame of operation, but also provided opportunity to share information and consolidate efforts. Open communication among all stakeholders (donor, NGO, contractor, community) is extremely important to avoid misunderstandings. Chibolya community will benefit from working with experienced NGO on O&M and financial management.
Recommendations		▪ Project task force of donor, NGO, contractor, community and other stakeholders should be established for timely addressing of issues ▪ Start-up operation costs and grant to capital replacement fund should be provided by donor
Lessons learned		▪ Concerns and priorities of NGO and donor can be difficult to consolidate ▪ Integration following design stage causes delays and difficulties ▪ Community prone to feel marginalized when not a party to decisions

6.2.3 Road and Drainage Improvement Project in Ng'ombe

(1) Community Participation

The table below provides an overview of the ways and extent to which community leaders and residents participated in the road and drainage improvement project.

Level of Community Participation in Ng'ombe Road Project

Activity	Role of community	Level	Basis
Needs assessment and problems analysis	Participatory workshop with 25 community leaders and active residents	Medium	Problems related to poor road condition were explored, but needs of pedestrians and household owners and values of residents were not considered
Project planning and design	▪ RDC/RC developed project work schedule, indicators, and community roles ▪ Community was informed of design and selection of subcontractor	Low	▪ Time frame was predetermined by rains and work schedule of study team ▪ Community had no input to design and selection of subcontractor
Sensitization and mobilization of community	▪ Local theatre group performed dance and drama ▪ Community meetings through ABO, churches and schools and politicians	High	Community had full responsibility for sensitization
Clearing of drains, hedges, and structures along road	Done by residents along road with supervision by Roads Committee (RC)	High	Residents participated and leaders supervised
Initial road works ▪ trench digging ▪ installation of culverts ▪ gravel works ▪ masonry & stone pitching ▪ cement slab construction & installation	▪ 20 – 53 community laborers hired at minimum wage for 7 days for excavation of trenches ▪ RC Chairman was employed as supervisor of works ▪ Provided tools for small allowance ▪ helped with installation of cement crossing slabs	Low	▪ Labor-based works on paid basis ▪ Majority women ▪ Only a tiny percentage of households participated ▪ Most works done by heavy equipment ▪ Skilled bricklayers from community were not hired for masonry works
Follow-up road works ▪ replacement of cement crossing slabs ▪ construction of speed humps ▪ masonry & stone pitching	▪ Cement slabs and speed humps constructed as training exercise for Roads Committee members ▪ Masonry & stone pitching being done by RC	High	Follow-up works were not in the original TOR of the contractor, but they cooperated to carry out as a training exercise with support of JST and LCC
Project monitoring and evaluation	RDC/RC monitored project implementation and participated in evaluation workshop	Medium	No clear mechanism to address concerns raised by community
Operation and Maintenance	RDC/RC has full responsibility for maintenance including mobilization of community and resources	High	LCC road engineers and CDOs will continue to provide advice and technical support upon request

The post project survey found that only 8% of households in the area of the road reported participating in the project through planning meetings, labor provision, and drain cleaning. In addition, very few residents were aware of the road project prior to construction. The main constraints to better participation included limited time frame, hiring of contractor for major works, lack of resources for sensitization and mobilization, and poor information flow in the ABO structure.

(2) RDC and Roads Committee Capacity

The ABO structure is not yet well established in Ng'ombe. The current RDC was elected in 1998, and in fact is the first RDC to be established in Ng'ombe. They do not yet have a proper office to work from although they have been involved in projects of other donors including SLP's solid waste project. Many of the same community leaders have been active in both projects, receiving training and holding various responsibilities.

However, according to the household survey carried out in Ng'ombe following the road improvement project, residents' awareness of zone demarcation and leaders is still very limited and the percentage of people attending zone meetings is low. Also, among the leaders themselves, attendance at community meetings is poor. It seems that only a small number of community members are interested or have the time available to get involved in community development activities.

Percentage of Households Survey

were aware what number zone they live in	8%
were aware of the name of RDC Chairperson	4%
were aware the number of people from each zone elected to FZR	3%
could name a FZR member from their zone	6%
had participated in a zone meeting	21%
had participated in the JST pilot project	8%
were aware of the existence of the Roads Committee	53%
could name one of the Roads Committee members	9%
were aware of the K500/household/month road levy	28%
were willing to pay the K500 road levy	79%

Source: JST Household Survey October 2000

As revealed in the figures above, residents have a much higher awareness of the Roads Committee than of the general ABO structure. Although in theory information is supposed to be flowing from top to bottom and bottom to top and decisions made in a democratic manner through the RDC, FZR and Zone Development Committees (ZDCs), it appears from our survey that information dissemination has not been effective, as most people were still unaware of the household road levy that was decided on eight months prior to the survey.

The Roads Committee was formed as a subcommittee of the RDC less than a year ago. Its members have participated in a range of project activities including training workshops, selection of community laborers, liaison between construction firm and community, monitoring and evaluation. They have demonstrated both interest and skills in community development. However, it is too early to judge their capacity to meet the on-going requirements of mobilization of funds and labor, and regular road maintenance.

Roads Committee members have gained sufficient technical skills through project training exercises to maintain the road, but they still lack confidence in their expected role of mobilizing both funds and volunteer labor. An Operation and Maintenance (O&M) system has been developed in theory, but not enough time has lapsed to know how well it will work in practice. The RC has access to the necessary tools for maintenance, but scarce funds are available to cover the costs of materials or transport. RDC and RC members continue to express the need for outside support in the form of training and funds.

(3) Road Design

A smooth strong gravel road with adequate drainage including an outlet bridge structure equipped for flash floods was constructed. Regular maintenance will be required for the condition of the road to last especially considering rainfall. The road is much narrower than the standard width for access roads in urban settlements due to encroachment. Since the project did not budget or allow time for relocation, the issue was not seriously discussed.

The main shortcoming of the road is the depth of the side drains and the steep slopes. The contractor installed 600mm diameter culverts as required by LCC standards, although the initial design called for 300-400mm. This has caused a hazard for vehicles and pedestrians as well as making the road more subject to erosion. In addition, residents responded to the deep drains by filling them with sacks and other materials in order to facilitate crossing.

(4) Community Expectations and Ownership

Although the community is satisfied with the improved road condition and ease of movement, their expectations were for a higher quality road. In particular, pedestrians who are the main users of the road are inconvenienced by the narrowness and steep drains. RC members reported the following desires:

- 2-lane tar-sealed carriageway
- pedestrian path
- drains stone pitched throughout

- road signs (names) and street lighting

Since few people had the opportunity to participate in the project, a sense of ownership was not inculcated during implementation. The few incidences of vandalism were considered to be a result of people being left out of the project. To date, despite mobilization efforts through schools and other community groups, residents are not assisting the Roads Committee with maintenance. However, 320 households have paid the road levy, indicating that more people are willing to contribute cash than labor. It is too early to know whether this financial contribution will be sustained.

(5) Impact

1) Traffic volume

An informal survey on traffic volume conducted before and after road improvement confirms the expected increase in all types of vehicles as well as foot traffic.

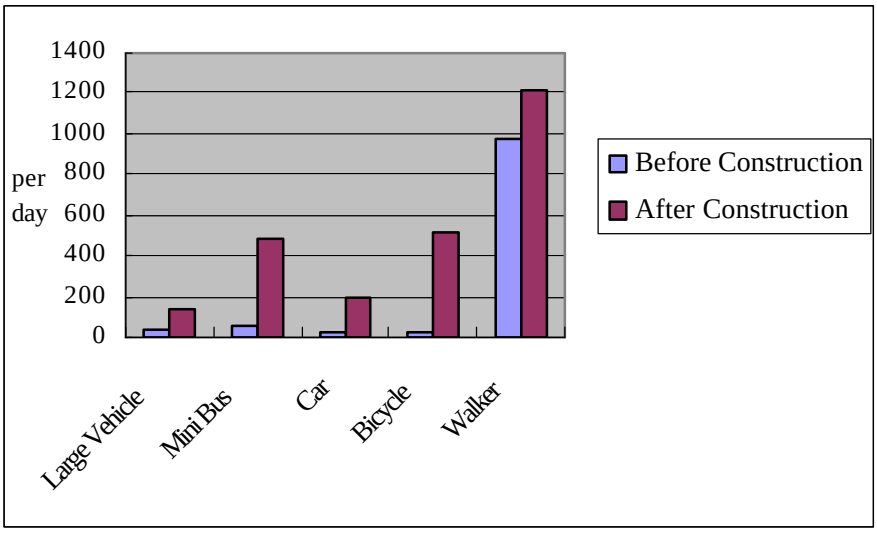


Figure 6.2.1 Comparison of Before and After Traffic Volume on the Pilot Project Road

There are nearly four times as many large vehicles and eight times as many buses and cars traveling to and from the settlement. Minibuses are much more available than before which improves access to public transport for those traveling to areas outside of the settlement. If we assume that those on bicycle and foot are traveling within the settlement, we can conclude that the improved road has had an impact on either the frequency or route that people travel. Clearly, the improved road surface facilitates the transport of water,

foodstuffs and household goods that are all carried on the head or with the aid of a wheelbarrow or bicycle.

Before Construction

After Construction

2) Safety and security

Although the community raised issues of safety and security when considering the road project, impact in this area is difficult to assess. Generally, people did not feel that security could be improved without the addition of street lighting, which was not part of the upgrading project. The improved condition of the road has allowed vehicles to travel at a faster speed which is dangerous for pedestrians particularly children and has generated complaints about increased dust. Because of this outcome, the contractor agreed to construct four cement-reinforced speed humps to control vehicle speed. This work was carried out in November with participation by the Roads Committee.

3) Health and sanitation

Although garbage is still accumulating rapidly in the drains, the condition of the drains is far more sanitary than prior to rehabilitation. In addition, the improved drainage system is expected to have the following positive impact:

- Prevent road surface deterioration
- Protect housing from flooding
- Reduce outbreaks of water-borne diseases such as malaria and cholera

Since this review is being done before the onset of the rainy season, it is too early to assess the extent to which these benefits were realized.

4) Economic

Interviews with business owners along the road indicate some increase in business due to the ease of bringing goods into the compound. In addition,

more women indicate reactivation of sales activities in the market area at the end of the road.

(6) Benefits and Drawbacks

Sixty percent of households interviewed said that improved access to community infrastructure was the greatest benefit of the improved road. Half also mentioned increased traffic flow as a benefit. On the other hand, two-thirds of those asked, replied that the road was too narrow, while a third mentioned increased traffic and dust as well as steep drainages as drawbacks. Increased vehicle traffic means more wear and tear on the road and therefore greater upkeep is required. Accidents are also more likely to occur.

(7) Evaluation

The results of evaluation summary (Table 6.2.3) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.3 Evaluation Summary- Ng'ombe Road Improvement Pilot Project

Criteria	Result	Justification
Efficiency	Slightly high	▪ Roads Committee (RC) shows commitment to carry out expected role ▪ Community participation in project was limited to a small group of leaders and paid laborers ▪ RC has not yet mobilized residents for clean-up and maintenance ▪ RC continues to request additional training and support from outside the community especially regarding financial management ▪ Design of road had shortcomings including too large diameter of culverts, lack of pedestrian passageway
Effective-ness	Mostly achieved	▪ RC is established, with sufficient O&M skills and tools ▪ O&M funds are being raised through collection of household road levy ▪ Road and drainages were improved and clean-up activities have been organized ▪ Some cement crossing slabs were vandalized ▪ Residents were not well aware of road project due to limited time frame for sensitization and weak ABO structure and processes ▪ Monitoring system lacked mechanism for follow-up
Impact	More positive than negative impacts	▪ ABO structure better established with higher skilled leaders ▪ Stronger working relationship between LCC and community ▪ Improved access to community infrastructure and public transport ▪ Improved business activities and opportunities ▪ Sanitation improvement (less garbage, standing water in drains) ▪ Increased vehicle speed, dust and danger of accidents
Relevance	Slightly low	▪ Benefits realized, but access to safe water was first priority and remains a need ▪ Road improvement project was not integrated with other needs ▪ Residents expected road would be wider and tar sealed
Sustain-ability	Slightly high	▪ ABO structure still new and not well established in Ng'ombe ▪ RC has good technical skills, but lacks management experience ▪ Community starting to contribute to road maintenance fund ▪ LCC officers involved in project and providing on-going support ▪ Gravel roads require maintenance particularly in rainy season
Conclusion		▪ Community is satisfied with improvements, but design could have better addressed needs of pedestrians. ▪ Most benefits of road projects are at the public/community level for those traveling by minibus outside the compound, with adverse impacts at the household along the road. ▪ Condition of road will depend on sustained efforts of RC members. ▪ Project implementation process provided good understanding of strengths and weaknesses of ABO structure. ▪ Low level of community participation in project has contributed to low participation in O&M.
Recommendations		▪ Project time frame needs to allow for full community participation in all stages. ▪ Need to develop income generation capacities of communities where there is the expectation for community management. ▪ Project design should include possibility of resettling residents to allow 2-lane carriageway with shoulders for pedestrians. ▪ Speed humps should be installed after improvement considering pedestrian' safety. ▪ Open drains should be covered by stone pitching.
Lessons learnt		▪ Cannot assume that community leaders have channels to disseminate project information to residents. ▪ Community sensitization and mobilization processes need to be closely monitored and supported. Several planing workshops should be held in the beginning of the project.

6.2.4 Health and Hygiene Conditions Improvement Projects in Bauleni and Chibolya

(1) Community-based Health and Hygiene Education (Bauleni and Chibolya)

1) Verifiable Indicators

Table below is a table summarizing the verifiable achievements observed/evaluated at the end of July 2000:

Verifiable Indicators

Output	Verifiable indicators	Achieved
In Bauleni, To educate 25% of all targeted area population of zone 8 and 13	Health education of 793 people in zone 8 and 13	160% (1263 people) of the targeted community (793 people) was reached through door-to-door campaign (47.3% of 300 houses were visited, according to post household survey)
In Chibolya, To educate 25% of all targeted area population of zone 4 and 5	Health education of 1,000 people in zone 4 and 5	69.5% (695 people) of the targeted community (1,000 people) was reached through door-to-door campaign (31.7% of 300 houses were visited, according to post household survey)
Number of educational drama performances conducted in target area of both settlements	3 performances for each settlement	Bauleni: 4 performances (65% attended according to post household survey) Chibolya: 3 performances (49.3% attended according to post household survey)
Transfer of knowledge, skills, and strategies to the communities	Training of community based trainers	40 targeted Health Educators trained (20 in each settlement)

As seen above, Bauleni has achieved to educate 1,263 people, or 160% of the targeted people. This is because Bauleni has a health clinic where NHC was historically very active in performing the health activities which resulted in the high attendance of trainees and effective achievement of health and hygiene education. Furthermore, the RDC chairperson was very cooperative and enthusiastic (compared to the one in Chibolya) in promoting health and hygiene education and in leading the community as a whole.

On the other hand, Chibolya has low achievement of the health education. Only 69.5% (695 people) of the targeted population were involved in health and hygiene education. This is opposite situation to Bauleni, as Chibolya has no health clinic and NHC was not so much active and efficient compared to Chibolya. Also, the residents in Chibolya did not consider the effects and benefits to be generated by health and hygiene education compared with

those by the water supply project. Moreover, the history, experiences in community development, and composition of the community living in Chibolya settlement is much more complex than that of Bauleni settlement. Reasons for low cooperation among the community in Chibolya are varied. Many of the inhabitants in Chibolya come from a diverse cultural and economic background, and unfortunately this diversity has resulted in poor cooperation between the residents. Also there have not been as many community based initiatives that have taken place in Chibolya as in Bauleni, leading the community to understandably have problems with partnerships and self-reliance. The study also found that the community and the RDC had strained relations that resulted in poor collaboration. Another reason of poor performance is that many RDC members themselves were trained as health educators, but could not carry out the necessary duties after other projects such as water and community school construction were initiated. Unlike in Bauleni where the transparency among the RDC allowed for greater community participation and involvement, in Chibolya, by involving the same members of the RDC and project participants, this was not achieved. Both in Chibolya and Bauleni, despite having discussed the issue of the payment of incentives at the TOT (training of trainers) and review meetings, members of the health educators group (HEG), especially those who were from NHC, demanded cash incentives and this issue still remained unsolved and especially in Chibolya, it resulted in low participation among the volunteers. This low participation in turn negatively affected the overall participation of the greater community.

2) Institutional Building

Establishing and strengthening institutional/organizational capacities are very important not only for ensuring good quality of volunteer community based health workers activities but also achieving sustainability. Despite the short duration of the project period, both health educators groups in two settlements improved their institutional capacity. Following figures come from institutional building monitoring sheets assessed by the health educators themselves during the project period (Explanation of the monitoring sheet is explained in 5.3.4 (1) 5). It shows comparison of health educators' institutional capacity building in January (beginning of the project) and November 2000 (post evaluation period) in each settlement.

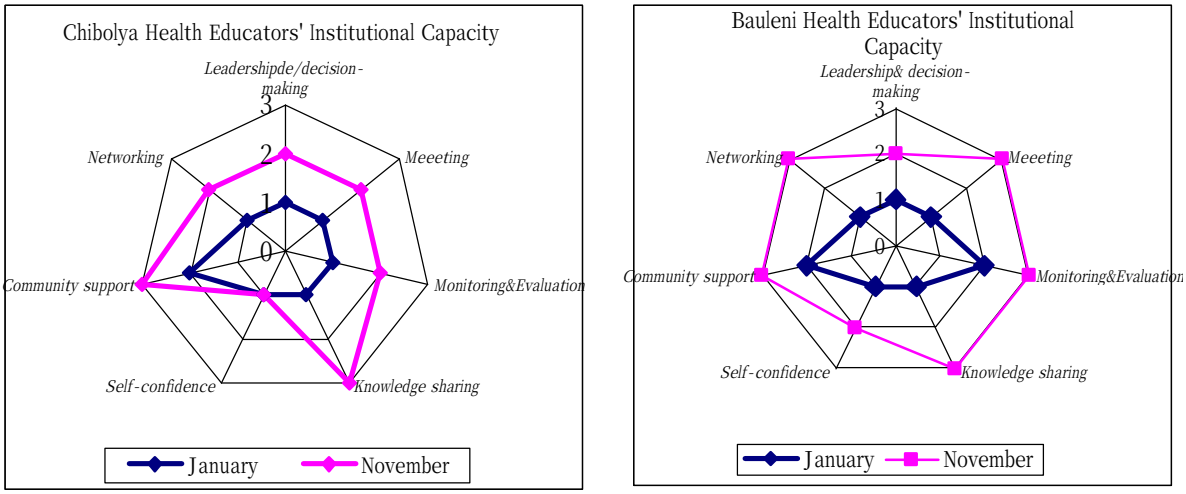


Figure 6.2.2 Participatory Assessment of Institutional Building in Bauleni and Chibolya

Both Chibolya and Bauleni Health Educators Group improved their capacities. However, as explained above, poor performances in Chibolya are reflected in lower institutional capacity of Chibolya Health Educators Group than that of Bauleni. In both settlements, self-confidence of health educators was not so improved and this is also reflected to the number of dropouts are many.

3) Results

The Evaluation Summaries are described in the following Table 6.2.4 and Table 6.2.5. Positive and Negative findings in this component are summarized below:

(i) Positive findings

- Drama performances attracted more beneficiaries and were found to be one of the more effective avenues for information dissemination.
- Door-to-door visits and church meetings proved to reach smaller numbers and required more time for the delivery of the messages, but had the benefit of having immediate beneficiary feedback on the topics being presented.
- Health educators appreciated the training of the trainers (TOT) workshop conducted and felt empowered through their knowledge, ability to analyze, identify, plan, implement, monitor and evaluate of their own health and community needs and teach others. They also gained confidence that they are able to convince people and felt community

appreciation and recognition and saw community's change that they became eager to learn.

- Certificate of attendance and identity cards issued to all of the Health Educators and latrine construction groups (LCGs) served as an additional incentive in their roles, which in the future, can be used to promote other volunteer activities in the communities.
- HEGs worked closely with LCGs and RDC to promote and identify VIPs latrine beneficiaries.
- Actual changes in behavior were observed. Post household survey also revealed hand washing method before handling/eating food is improved by 12% in Bauleni and 25% in Chibolya, hand washing after handling of infant faces, household waste disposal method was also improved.

(ii) Negative findings

- The duration of the TOT workshops conducted was ultimately short and only covered topics related to Environmental Health and Hygiene, and did not cover beneficiaries' topics of interest, such as nutrition, TB, HIV/AIDS etc.
- Most of the targeted health educators in two settlements did not possess a sufficient health background and good literacy/experiences to quickly grasp the concepts presented in a timely fashion.
- Most of health educators in Chibolya expected that project should give financial incentives for participation and some HEs are in formal or informal employment. As a result, the rate at which the Health Educators absorbed the material presented was slow and the overall turnover (dropout) of the groups was high.
- In Chibolya, due to time constraints, the RDC hurried selection of candidate and they did not adequately screen and explain the requisites of being voluntary health educators to the applicants and this resulted in high turnover rates.
- Tension increased among HEs, particularly between NHC and RDC members. NHC members dropout not only because they expected for some cash incentives but also felt that they should not be supervised by RDC but by the clinic.
- Household follow-up monitoring sheet was developed later stages of the implementation and not simple enough for health educators to understand, because the same health educators not necessarily conduct follow-up

visits. Therefore it was not helpful to assess follow-up visits since not all health educators fill in the sheet.

- Seasonal problems made community appointments not fulfilled by HEs and NGO, causing project process to be delayed. And also protective clothing were not handled out and caused constraints in rainy season for some HEs.
- The clinics (Both in Bauleni and Kanyama Clinic) were missing most of monthly meetings with the HEs due to time constraints.

4) Evaluation

The results of evaluation summary (Table 6.2.4 and Table 6.2.5) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.4 Evaluation Summary of Community-based Health and Hygiene Education Project in Chibolya

Evaluation Criteria	Result	Justification
Efficiency	Slightly Low	• TOT, drama performances were conducted as scheduled but door-to-door health education target was not achieved • Knowledge and skills of training participants were improved, but satisfaction level of training module, duration was relatively low • Timing of training input was not appropriate (rainy season)
Effectiveness	Mostly Achieved	• Selection criteria of participants of the training was not carefully examined (70% of members belong to the RDC) who could not continue working as HE • Monthly meetings were not conducted regularly and only a few health educators remain working actively
Impact	More negative than positive impacts	• Existing drama group within the community was identified, trained and worked hand in hand with health educators group (HEG) • Health & hygiene education model was not extended to the other zones even 5 months after the project was completed • Collaboration between HEG and NHC (neighborhood health committee) was not achieved, but it rather increased the tension (see negative findings for more explanation)
Relevance	Slightly High	• Strengthening health educators under RDC's supervision is not in line with current government policy • Meets the needs of the community addressing importance of health /hygiene education, it also supplements the work by the clinic
Sustainability	Slightly Low	• A monitoring system was not well established and practiced • No organizational income generation mechanism established to cover operation cost of HEG (such as stationeries)
Conclusion • An evaluation result is slightly low. The project could not develop a good model for participatory health and hygiene education. • Although self-sustainable mechanism such as organizational income generation activities were not initiated, good collaborative relationship was established between JST/Africare and CARE PROSPECT who plans to continue providing environmental health and hygiene education. MOU (memorandum of understanding) was signed to continue strengthening the capacity of health educators who were trained by JST/Africare.		
Recommendation • The RDC, in order to avoid unnecessary drop outs and high turnover rates within the volunteer pool in the future, should be advised to take time to screen each applicant and provide one to one discussions with each person interested in becoming a volunteer. Suggested criteria for the selection are: commitment to volunteer work, sufficient level of household income, previous volunteer and/or work experiences, literacy level, health background and period of residency. • EHTs should be involved in all stages of the project to improve quality of services. • There is a need for the developers of the final training manual and follow-up monitoring sheet to conduct a pre-test survey in the same localities in which those tools will be utilized.		
Lesson learnt • Sub-health center in a settlement where there is no clinic is necessary, so that health educators have a base and also receive continuous support and supervision by professional staffs. • Given a more realistic timetable, to properly complete the stated objectives of the pilot, the impact of negative situations presented above would have been lessened. • The duration of the training workshops for community volunteers should allow adequate time for the participants to fully absorb the key messages being discussed. • Seed money for health educators should be provided to start income generating activities for future sustainability of the volunteer group.		

Table 6.2.5 Evaluation Summary of Community-based Health and Hygiene Education Project in Bauleni

Evaluation Criteria	Result	Justification
Efficiency	High	• Door-to-door campaign target was achieved, and TOT and drama performances were conducted as scheduled • Knowledge and skills of training participants were improved, and satisfaction level of training module was relatively high but timing of training input was not appropriate (due to rainy season)
Effectiveness	Achieved	• Most of health educators group (HEG) members continued working and all four dropouts were replaced by new ones • Meetings were conducted regularly and progress of door-to-door is monitored regularly & shared by health center, and HEG and RDC
Impact	More positive than negative impacts	• A few members from other zones showed willingness to join HEG • Door-to-door was applied to the outside the target area after project was completed • HEG's knowledge and skills were improved and they gained confidence and felt empowered • Collaboration between HEG and NHC (neighborhood health committee) was not achieved, but it rather increased the tension
Relevance	Slightly High	• Strengthening health educators under RDC's supervision is not in line with current CBO (central board of health) policy which is to strengthen NHC (neighborhood health committee) and if funds are available to increase number of CHW (community health workers) • Meets the needs of the community addressing importance of health and hygiene education and it supplements community work by the local clinic
Sustainability	Slightly High	• A monitoring system was well established and practiced and area clinic is involved in the process (supervision) • No organizational income generation mechanism established to cover operation cost of HEG (such as stationeries)
Conclusion • Project purpose and outputs were achieved and relevance and sustainability are slightly high. • The duration of pilot study was too short to allow community initiative to be raised to establish income-generating activities for the organizational sustainability (to cover operational cost in the future). • Although the project tried to combine health volunteers under RDC and those who are under the clinic, it was not very successful.		
Recommendation • LCC and DHMT (district health management team) should show clear policy direction and plan for capacity building (roles, M&E mechanism of community health work etc.) of existing community based health volunteers, such as NHC, CHW, RDC-health committee. • Primary role of supervising health volunteers should fall under the clinic, not RDC since clinic is professional organization in area of health. However RDC should continue collaborating with health center to identify and solve problems in the community. • Local health centers in the project area should devise a work schedule that will include time to meet with the RDC to facilitate collaboration and discuss health issues of concern to the communities. • Health educators during monitoring and support visits should be conversant in and encouraged to practice all of the lessons covered during the TOT workshops.		
Lesson learnt • Seed money for health educators should be provided to start income generating activities for future sustainability of the volunteer group. • Monthly monitoring sheets should be simplified ensuring that the community can complete them properly.		

(2) School -based Health and Hygiene Education

1) Verifiable Indicators

Table below is a table summarizing the verifiable achievements observed/evaluated at the end of July 2000:

Verifiable Indicators

Output	Verifiable indicators	Achieved
Establishment of school health coordinating committee	Committee to facilitate the school health activities in place	12 members composed of teachers, pupils and parents established
SHCC meetings	Wednesday weekly meetings were held	7meetings held from May to July
Community mobilization	Meetings held to mobilize community and school pupils	2 planned mobilization and sensitization meetings held
Refuse disposal	(a) 2 refuse pits dug (b) 26 carton boxes sourced (c) 8drums or bins sourced	(a) 2 refuse pits dug (b) 4 carton boxes sourced (c) No drums or bins sourced
Drama performances	Number of performances done by student/outside drama groups	2 performances done as per plan
Drama trainings	School drama trained by outsider group	3 drama training sessions completed
Repair existing toilets in the school	2 toilets repaired	No toilet was repaired due to financial constraints (not budgeted) but fund raising activities were initiated
Increase low water pressure	Number of additional tap stands installed	No additional tap stands installed because the school has no resources (not budgeted) but fund raising activities were started

As mentioned above, three planned outputs (refuse disposal, repair existing toilets in the school and increase low water pressure) were not well achieved. The reason was that, due to budgetary constraints, JST's initial focus of this project was not on sanitary facility improvement but on promoting sanitary practices of children to protect them from water and sanitation-related diseases. However, as explained in Chapter 4, improvement of sanitary conditions and facilities are recognized as important as health promotion/education to improve health status of the children at schools. Although these two outputs were not budgeted by the project, the SHCC planned and initiated some activities, such as fund raising and sourcing carton boxes. Due to the short period implementation (2 months) it is impossible to make depth-analysis here.

2) Institutional Building

Since this project began at a later stage of the pilot study and activities were implemented only for 2 months (Mid.May-Mid.July), institutional/organizational capacity building assessment was not emphasized. Instead, CARE PROSPECT took over the issue of strengthening for school health institution/organization.

3) Results

The Evaluation Summary is described in the following Table 6.2.6.

Positive and Negative findings in this component are summarized below:

(i) Positive findings

- Through the establishment of a balanced stakeholder school health coordinating committee consisting of teachers, students, parents from the community, and health clinic staff, the committee demonstrated that through community based partnerships problems facing the community can be effectively addressed.
- The community pupil mobilization meetings conducted by the committee were also successful in raising awareness about school health concept. It mainly resulted from the hard working parent committee members that organized greater community participation.
- Private drama group trained school drama group and the clinic was quite effective in working along side the student group and provided the skills necessary to empower the student group in the dissemination of the health and hygiene education messages to the school and community.
- Logistical support provided by the project through the procurement of drums and costumes for the school drama group proved to be an added incentive, raising the interest of those involved.

(ii) Negative findings

- The length of the training workshop held for the SHCC. The three-day workshop did not allow sufficient time for all committee members to fully grasp the concepts presented. This mainly was a factor of the wide variance in education and literacy levels held by the members.
- Drama performances were conducted as per planned but the attendance on the part of parent was not as expected.

- Students member of SHCC were too young and too shy to express their opinions during meetings therefore replaced by older students.

4) Evaluation

The results of evaluation summary (Table 6.2.6) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.6 Evaluation Summary of School-based Health Education Project (Chibolya)

Evaluation Criteria	Result	Justification
Efficiency	High	• All outputs planned were achieved on schedule except for activities planned by SHCC but not budgeted by JST • Training duration was short but school health concept was well accepted
Effectiveness	Achieved	• Work plan during and beyond the project period was developed and activities are still ongoing • Although it was short period of time, school-based health and hygiene education model was established in collaboration between school and the community
Impact	More positive than negative impacts	• Awareness about health and hygiene issues were raised among students and their parents • The number of school drama group was increased and students gained confidence and feel proud of themselves
Relevance	High	• Meets concept of child-to-child which has been one of the major components of MOE (ministry of education) strategy • This project meets needs of both school and community to work together to improve environmental living conditions
Sustainability	Slightly High	• A monitoring system was well established and practiced • No organizational income generation mechanism established to cover operation cost of SHCC (such as stationeries)
Conclusion • Despite the limited duration of the School Health component of the pilot study, the activities completed and evaluation results suggest that the need and potential duplication of such a similar program in communities and schools elsewhere is feasible. Evaluation results, as a whole is quite high. • Although self-sustainable mechanism such as organizational income generation activities were not initiated, good collaboration between different international NGO, • Africare and CARE PROSPECT who plans to continue providing assistance to the school was achieved and MOU (memorandum of understanding) was signed.		
Recommendation • The study revealed that similar project is replicable to other schools. Ministry of Education and Ministry of Health should discuss application of similar strategy. • SHCC should continue strengthening SHCC's institutional capacity (financial, team work) and expand its activities in the community. • Similar approach could be used not only in the government schools but also in the community school. • Health Center should serve as an additional resources as they provide supervision and technical advises to SHCC and it should also report to both DEO (District Education Office) and DHMT		
Lesson learnt • Linking school students' health activities with the communities is an effective approach to bridge the gap between school and the community. • Through the establishment of a school health coordinating committee consisting of teachers, students, parents from the community, and health clinic staff, the committee demonstrated that problems facing the community can be effectively addressed through community based partnerships. • Duration of training should allow adequate time for the participants to fully absorb the key messages covered and it should be held during dry season. • PTA should be actively involved, as their role is to oversee school activities.		

(3) Home and Demonstrative Communal VIP Latrine Construction

1) Verifiable Indicators

The Communal VIP Latrines were constructed in Bauleni and Chibolya. The Home (Individual) VIP Latrines were provided in Bauleni only.

Table below is a chart summarizing the verifiable achievements observed/evaluated in Bauleni.

Verifiable Indicators

Output	Verifiable indicators	Achieved
Expose community to benefits of VIP latrines	40 VIP latrines constructed in Bauleni	35 home VIP latrines are completed 4 latrines still under construction (15singles and 10 doubles)
Introduce and teach the skill of VIP latrine construction	4 demonstration VIPs constructed in two settlements	5 constructed (2 double +1 single)
Transfer knowledge, skills and strategies to the community	Training of 20 (10 in each settlement) community bricklayers	20 targeted bricklayers trained
Usage of communal VIP demonstration latrines	Number of people who used the communal VIP demo latrines	152 Bauleni clinic VIP 23 Chibolya communal VIP
Unsanitary conditions observed among constructed home VIP latrines	Unsanitary conditions observed in less than 20% of latrines installed	4.8%
Damage observed among constructed home VIP latrines	Damage observed in less than 20% of latrines installed	8 %
Utilization of constructed home VIP latrines	Higher than 90%	95.2%

In Bauleni, the community constructed 90% of the targeted forty home latrines and three demonstration latrines with the assistance of the trained LCGs. There were damaged (cracked roofs) or poorly built VIP latrines in Bauleni due to poor quality of sand collected by beneficiaries because some of them could not collect river sand during the rainy season nor buy equivalent quality of sand from the market. The reason not to have achieved the target was that some beneficiaries could not pay for the labor cost for LCG when they were requested, due to lack of cash in hand, thereby frustrating the LCGs and resulting in delayed or poor construction. However, majority of beneficiaries managed to mobilize all of the necessary resources needed to complete their task. In several cases the beneficiary exceeded the specified minimum contributions at their own cost and on their own initiative to build additional latrines or shower space and paint them.

Although not mentioned above, in Chibolya, in addition to the two targeted demonstration latrines, trained LCGs constructed six additional VIP pit latrines in the surrounding settlements of John Laing, Kanyama and Kuku. Apart from the funding problem (no fund provided by JST for Chibolya home latrine), high water table or soil poor condition also prevented many others from constructing additional latrines.

2) Institutional Building

Establishing institutional/organizational capacities are very important for sustainability of latrine construction group. As a result of short period of pilot study, and style of their work, most LCG members worked as three working groups (3-4 members), and good teamwork was not built among different working groups. The following are from institutional building monitoring sheets assessed by the LCG themselves during the project period.

Bauleni Latrine Construction Group improved its capacity throughout implementation of home VIP latrine construction project whereas Chibolya Latrine Construction Group had difficulty to improve it's capacity since there were not many opportunities for its members to use their new skills.

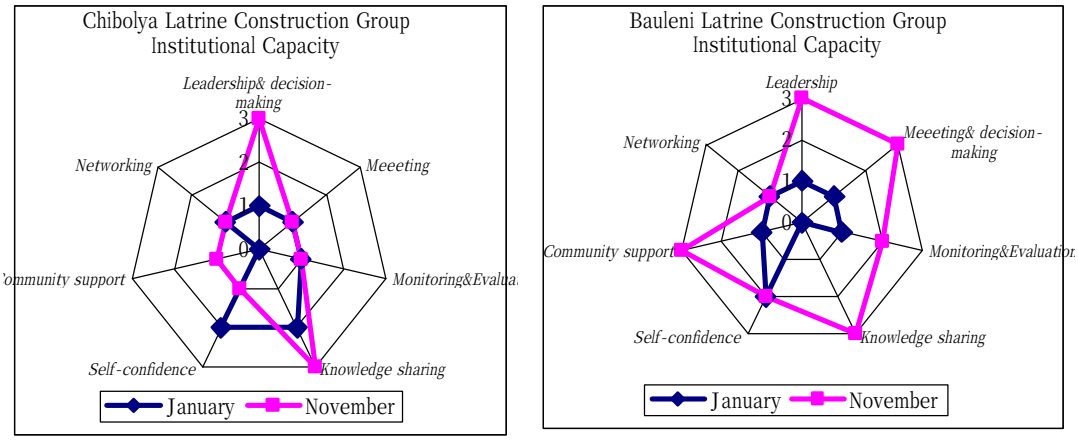


Figure 6.2.3 Participatory Assessment of Institutional Building in Bauleni and Chibolya

3) Results

Positive and Negative findings in this component are summarized below:

(i) Positive findings

- Introduction of the demonstrational communal VIP latrines in the two settlements was successfully done by collaboration among HEG, RDC and LCG and it attracted the attention of communities outside the pilot area and interest has been shown in replicating the VIP technology.

- It was found that as a result of their participation, the women who were involved now felt empowered through the training provided by the project to build their own latrines and address issues of concern to them and their children in the community.
- Community contribution concept was well accepted in Bauleni and it helped increasing ownership of the latrines.
- VIP manual was clear and it was very user-friendly.

(ii) Negative findings

- The heavy rains experienced during February and March posed a challenge to scheduled construction activities. The initial practical VIP construction training was difficult to carryout due to water collecting in the pits and materials, especially bags of cement, ruined due to rain.
- The inability of the community to gather its community contribution of sand should also be organized around the rainy season.
- EHTs were involved in the planning but not directly involved in the project (implementation, M&E, and supervision).
- Sensitization campaign of the VIP latrine in Chibolya was not well undertaken although its goal was to target all landlords to have them construct a VIP or ordinary pit latrine on their plots. Therefore the benefits of having a latrine was not widely disseminated.
- A few bags of cement were suspected to be misused by male bricklayers who had not been working as hard as women latrine construction workers in Bauleni.
- In Chibolya, it was difficult to target landlords since most of them do not reside in the area.
- There were damaged (cracked roofs) or poorly built VIP latrines due to poor quality of sand collected and used by beneficiaries.
- LCG members felt that the payment they decided to charge (45,000 kw for single 65,000 kw for double VIP) was too low far the work and time involved.
- Some beneficiaries were not paying for the labor when required , due to lack of cash in hand, thereby frustrated LCGs which resulted delay or poor construction.

- Some LCGs dropout or poor workmanship was observed due to little recompense for their labor.
- Geographical difficulties (rocky areas, flood-prone, etc.) should have carefully been examined on the stage of planning.
- Diversity and complexity of cultural/ethnic, tribal background often made it difficult to harmonise beneficiaries in implementing projects.
- Regarding life span of latrines, more sustainable and prolonged usage of latrine should have been examined.

4) Evaluation

The results of evaluation summary (Table 6.2.7 and Table 6.2.8) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.7 Evaluation Summary of Home VIP (Ventilated Improved Pit) Latrine Project in Bauleni

Evaluation Criteria	Result	Justification
Efficiency	High	• Project could not achieve target number of VIP latrine construction. This was partly due to influence of rainy season and also beneficiaries could not prepare river sand and cash on time • NGO input (only one latrine technician, logistical transport) was not sufficient implement all the tasks required to achieve the target
Effectiveness	Mostly Achieved	• Demonstration latrines, drama performances and health educators efforts to promote latrines helped promoting VIP latrines • The project helped lower income household and more than 90% of beneficiaries accepted the technology, community contribution concept • Unsanitary condition and damage observed were less than 20% of all latrines and utilization level was higher than 90%
Impact	More positive than negative Impacts	• 6 new latrines were constructed outside the target area with 100% community contribution • Female LCG (latrine construction group) members' knowledge and skills were improved and they gained confidence and felt empowered • Collaboration between LCG and HEG was highly achieved
Relevance	High	• Government policy on health and sanitation is in line with the project • Meets the needs of the community eager to have safe and sanitary latrine in the community
Sustainability	Slightly Low	• Supervision of the work of LCG, progress monitoring was mainly done by NGO and LCG members worked as individuals (2-3 members in one group) and they were not well supervised under RDC • More than 80% of LCG members remain active
Conclusion • Project purpose and outputs were mostly achieved and the model was well accepted by the community, but sustainability turned out to be slightly low. But, the beneficiaries accepted the concept of community contribution and the project was highly appreciated by the community. • With the duplication of the bricklayers manual that outlines how to build a proper VIP latrine, and the continued trainings of community people by the LCG members trained under this pilot phase, this component of the pilot project could produce long-term sustainable results.		
Recommendation • Through provision of (75% of total cost) materials, the project should be expanded to the other areas. • RDC should be responsible for supervision of the work done by LCG and for logistics management of the project to prevent misuse of materials and to achieve acceptable quality level of the latrine. • Quality of sand collected by beneficiaries should be checked by technician to avoid damage/cracks • Influence by and maximum use of the effect of heavy rains on collecting river sand, training and construction period should be considered when expanding the project to the other areas. • EHTs of catchments area should be directly involved in all stages of the project.		
Lesson learnt • Importance of community contribution aspect of the latrine construction should be reemphasized with the beneficiaries so that the timely receipt of goods and payments to the LCG do not result in construction delays. • Some beneficiaries could not pay for the labor at once, thereby frustrated LCGs which resulted delay or poor construction • More low income household will be saved if 1) beneficiaries are provided enough time to prepare required contribution (sand, cash for LCG), 2) landlords are legally obliged to build VIP, 3) contribution rate vary according to income level. • If the landlord could not be targeted, a group of tenants should be targeted in the efforts of communal (shared by 3-4 households) latrine sensitization, construction and its maintenance.		

Table 6.2.8 Evaluation Summary of Demonstrative Communal VIP (ventilated improved pit) Latrine Project in Chibolya

Evaluation Criteria	Result	Justification
Efficiency	Slightly Low	• Satisfaction level of trainee on training manual and program is very high and knowledge/skills improved • Timing for input (for constructing demonstrative communal latrine) was delayed
Effectiveness	Mostly achieved	• Damage/unsanitary condition not observed but dropouts of LCGs were not replaced and only half of them remain working • Utilization of demo latrine was not so high because it became fee paying communal latrine after it was vandalized at early stage of demonstration period.
Impact	Both positive and negative impacts	• LCG helped building VIPs in other zones and other compounds (10 latrines, 4 in Chibolya) • After demo latrine was vandalized, RDC and LCG members donated their money to replace doors and rocks
Relevance	High	• Government policy on VIP construction is in line with the project • 100% community contribution could not meet the needs of the community eager to have safe and sanitary latrine
Sustainability	Slightly Low	• Activities (although they are individual basis rather than team) are under supervision of RDC • Only 60% of the members remain active • CARE PROSPECT is assisting LCG to build one communal latrine
Conclusion. • Project purpose and outputs to establish a model to build communal VIP latrine was mostly achieved but expansion of home VIP latrine without providing any subsidy was insufficiently achieved. • A particular challenge was faced where rock outcrops at the surface making excavation difficult and increasing the risk of contamination of the aquifer.		
Recommendation • Development of sustainable intervention involves several phases, which are, careful surveying, demonstration, consolidation and mobilization. • In implementing project in the area where socio-cultural background is so complex and environmental background to have sanitary/safe latrine is so challenging, project duration should be long enough to take necessary steps to change the community perception. • Considering geological difficulties, the project should plan for communal (not public, but shared by several households) latrine, with particular emphasis on awareness raising to maintain those facilities.		
Lesson learnt • The criteria to select the bricklayers should included previous knowledge in masonry and permanent residency in the targeted areas, since this compound is closer to town where many business activities are on going. • There are also potentials for income generation activities (such as soap production, emptying of latrines, artisan construction of latrines elements such as slabs and blocks, production of hand washing facilities) would be researched and appropriate training provided to local entrepreneurs to independently start up and run such business enterprises. • Latrine emptying agents such as “Pitkin” should be included in VIP promotion activities.		

6.2.5 Income Generating Project in Bauleni

(1) Financial Management

As indicated in section 5.3.5, the Phase I group started repayment in mid March, one month after reimbursement, and Phase II group started at the end of July. These two groups have different characteristics and capacities in terms of loan repayments, savings, group solidarity and responsibilities[1]. Group I has already had repayment due date after 32 weeks, while Phase II is still in mid of repayment. The following table shows the comparison of financial performance of these two groups.

Financial performance of Group I & II

	Phase I (32 weeks: As of 4th Nov 2000)	**Phase II (32weeks: As of 24th Feb 2001)**
Repayment rate	54 %	66 %
Arrears rate *	45 %	39.2%
Default rate *	1 %	0%

* Arrears rate indicates number of those who delay repayment more than 3 months. Default rate shows those who are completely unable to repay by closing business, sickness and death. Default rate is not yet confirmed.

As seen in the table above, the performance of repayment rate of Phase I is not so satisfactory, whereas Phase II demonstrates a higher record and performance. Although the Phase II recorded more than 70% repayment rate, it dropped after January 2001 simply because of heavy rainfall which made it difficult for beneficiaries to run outside businesses, such as selling groceries or reaping agricultural products.

Generally, the individual capacities of Phase I were smaller. As the project attempted to target the poorest of the poor, most of them are illiterate and less business oriented compared with Phase II. Also nepotism and cronyism were involved in the process of selection so that fair selection based on the criteria were not necessarily ensured. Also group solidarity and responsibilities are weaker in Phase I. Lack of peer pressure and weekly regular meeting affected not only repayment rate but also institutional capacity for sustainable financial operation and management. Main reasons of arrears in Phase I and II are business failure, (no profit and customers failed to pay) sickness, funeral, decrease of family income and so on.

Another weakness of Phase I was that rules and regulations in financial operation were not valid. Few members followed the constitution which was stipulated by

[1] Comparison of saving amount in Phase I & II can be referred in Appendices.

themselves. Also it seemed that 32 weeks repayment period was slightly short, especially for poor people. From the experience of other financial operations, about 50 weeks may be a more affordable and realistic setting. The NGO's performance and capacity are crucial. The loan allocation exceeded the agreed amount for Phase I by 20%, so sustainable operation was undermined. The capacities of credit officers greatly influenced repayment as well as institutional growth. The NGOs often work with their own operation, and did not have good communication with RDC, since there was nepotism and cronyism involved in the beginning. Also, duty of confidentiality on privacy was not always kept during the operation. Thus there were some beneficiaries who did not like to attend meetings and repay loans.

(2) Personal Profile and Impact Assessment

Recording personal profile and impact assessment were undertaken to analyse the present situation, changes and impact of individual level though microfinance activities. Individual interviews were conducted in Phase I to identify personal profile and assess impact. Personal profile was only confirmed for Phase II as it is impossible to assess impact in the process of operation.

The following tables show the personal profile and impact assessment.

The most distinctive difference between Phase I & II is low literacy rate of beneficiaries in Phase I and high literacy rate in Phase II. Also Phase II have more business experience than Phase I. Majority runs business by selling foods, groceries and charcoal. But the most successful types of business in the compound are small vendors who can sell goods and get some income on a daily basis.

Income increase was not so significant according to the beneficiaries' own views, but measuring income is very difficult and its data are unreliable. Indeed, during the interviews, as most respondents could not estimate monthly income, we had to estimate it based on expenditure. Most businesses make some profit but they are polarised between those who get bigger profits and very small profits. Profit is also difficult to measure as it is not only not constant, but it is also on a cyclical basis. Monthly household income in Phase II is much bigger than that of Phase I. This proves that basic profile and capacities are significant between two groups.

Personal Profile of Phase I & II

Personal Profile	Phase I (44 members)	Phase II (50 members)
Age	20-31: 25% 31-40: 55% 41-50: 9% 51- : 11%	20-31: 25% 31-40: 39% 41-50: 25% 51- : 11%
Literacy	Literate: 41% Illiterate: 59%	Literate: 88% Illiterate: 12%
Average family no.	Adult: 2.5 Children: 3.9	Adult: 2.5 Children: 3.7
Working people in family	1.5	1.7
Business experience	Yes: 55% No: 45%	Yes: 98 % No: 2%
Years of business expe.	6.5 Years (average)	6.9 Years (average)

Impact assessment of Individual Member

Impact Assessment	Phase I	Phase II
Type of business	Food and groceries: 60% Charcoal: 11% Cloths: 11% Tailoring: 9% Others: 9%	Food and groceries: 44% Charcoal: 28% Cloths: 12% Tailoring: 5% Others:9% None:2%
Reasons of arrears	Bad business: 24% Customers don't pay: 18% Sickness: 16% Funeral: 13% Goods stolen, or cheated: 11% Lack of family income: 8% Lack of skills & knowledge: 5% Loans were used for non-business: 5%	Bad business: 68% Sickness: 4% Funeral: 4% Family problem: 8% No answer: 16%
Source of loan repayment	Own profit: 61% Own profit and family support: 23% Family support only: 14% Other: 2%	Own profit: 68% Own profit and family support: 35% Family support only: Other: 2%
Profit by business	Yes: 77% No: 23%	Yes: 93% No answer: 7%
Monthly profit	Below K30,000: 40% K30,000-100,000 23% Over 100,000: 37%	Below K100,000 26% More than K100,000 68% Over 500,000: 8 %
Skills improved after training	Yes: 86% No: 14%	Yes: 96% No: 2% No answer: 2%
Improver skills and knowledge after training	Business management: 22% Cost & profit mechanism: 21% Accounting: 18% Cash management: 12% Capital management: 9% Budgeting: 9% Financial discipline: 6% Marketing strategies: 3%	Business management: 7% Cost & profit mechanism: 15% Cash management: 10% Capital management: 46%
Monthly household income (expenditure)	Below K100,000: 19% K100,000-200,000: 36% More than K200,000: 45%	Below K100,000: 4% K100,000-200,000: 4% K200,000-K400,000: 38% K400,000- : 44%
Income increase	N/A	N/A
Expenditure increase	Increased: 64 % Same or decreased: 36%	Increased: 98 % Same or decreased: 2%
Goods bought after loans (changing expenditure pattern)	School fee & uniform/shoes: 46% House renovation: 24% Household goods: 22% Others: 8%	School fee & uniform/shoes:8% House renovation: 13% Household goods: 37% Others: 5% Nothing: 37%
Gender relations, access and control of household economy	Have access & control: 17% Have access but no control: 83%	Have access & control: 14% Have access but no control: 77% No answer: 8%
Life changed after loans	Yes: 73% No: 27%	Yes: 93% No: 7%
Relations with house & society	Changed: 59% No: 41%	Changed: 19% No: 77% No answer: 4%
Have confidence now?	Yes: 77% No: 23%	Yes: 98% No:7%

Apart from food selling which creates daily income, for example, purchase and selling of a bunch of clothes can make profit on irregular basis.

Meanwhile, the most distinguishing feature of impact assessment was that the expenditure pattern changed, especially education expenditure was significantly increased.

In gender and social relations, economic control by women has not so much changed even though women get their own income. Majority said that they must discuss financial issues with their husbands first. Thus, most of them have access to household economy, but not control. However, many of them said they do not need to beg or buy goods in credit, or that they get more respect from husbands than before so that they feel more self-esteem and confidence now. Indeed many women are empowered, and this is one of the greatest benefits in getting microfinance.

The results of impact assessment are presented by the figures in Appendix.

(3) Institutional Building

Establishing institutional/organisational capacities is of crucial importance in operating and managing microfinance institution. When the project was launched, both the NGO and community endeavoured to set up rules, regulations, and constitutions. However, these did not become valid in the process of implementation. In Phase I, there were no regular weekly group/centre meetings held, no peer pressure and no system to follow the constitutions. These negative institutional performances resulted in poor records and outcomes. The following table and figure show the participatory assessment on institutional capacities by the beneficiaries of Phase I. It is obvious that their capacities of leadership, meeting & decision making and monitoring & evaluation are particularly weak, and those elements of capacity building are needed to strengthen in the future.

Participatory Assessment of Institutional Building

Capacity Factors	Justification	Score out of 10
Leadership	No strong leaders to organise group meeting and monitoring.	**4**
Meeting, & Decision-making	No weekly meeting was held in all 9 groups. Decision-making was not properly done.	**2**
Monitoring & Evaluation	Without regular meeting, M&E was not done by group members.	**4**
Knowledge sharing	Consult and advise on individual basis but not on group basis.	**6**
Self-confidence	Only individually, but not in group.	**8**
Community Support & networking	Got strong support and expanded networking.	**8**

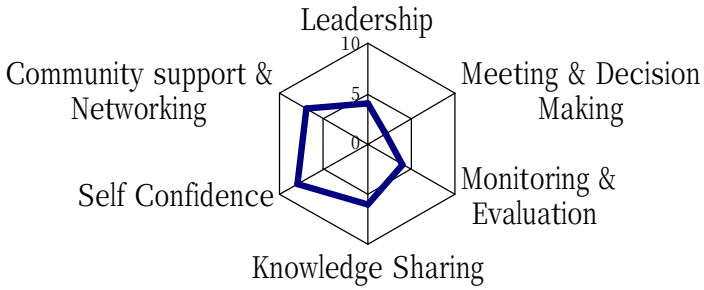


Figure 6.2.4 Institutional Capacity (Bauleni)

(4) Results from Both Phase I & II

1) Positive results

- On an individual basis, there were some impacts of getting loans.
- Income presumably does not appear to change significantly in a short period from the individual survey, but average monthly income/expenditure of beneficiaries is much higher than the rest of residents in Zone 8&13. (Based on the baseline survey, only 31.6% had income (expenditure) more than Kwacha 120,000, while there are 45% of total beneficiaries who have more than Kwacha 200,000).
- Expenditure pattern was significantly changed especially in the pattern of education fee and costs and house renovation.
- Having loans gave the senses of self-reliance, being respected and confidence.
- Careful planning and screening of beneficiaries should be made for formation of efficient and competent groups (Phase II) and better performance in both repayment rate and institutional capacities.

2) Negative results

- Weak personal profile (illiterate, no business experience) makes it difficult to sustain the groups and financial management. (Needs to examine whether poorest of the poor can be eligible to be beneficiaries).
- Screening of beneficiaries was not appropriate in terms of qualification and fairness. (political power, nepotism and cronyism was involved in the process of selection).
- Covered only 2 Zones (8&13) for Phase I while selected beneficiaries from all zones for Phase II.
- Over allocate loans for Phase I. (political interference)

- Short repayment period (32 weeks).
- No pressure and regular weekly group meetings.
- No validity of regulations and constitutions.
- Miscommunication and discommunication between NGO and RDC.
- No duty of confidentiality on privacy by credit officers of NGO.

(5) Evaluation

The results of evaluation summary (Table 6.2.9) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and Sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.9 Evaluation Summary of Income Generation (Mainly Phase I)

Five Evaluation Criteria	Result	Justification
Efficiency	**Low**	• Repayment rate is not so high, and arrears rate is relatively high. • Revolving fund is not enough to sustain the financial institution. • Credit allocation was bigger than planned.
Effectiveness	**Mostly Achieved**	• Women groups were formed and got financial assistance. • All relevant stakeholders acquired selection system. • Repaid money was properly saved. • Most of the beneficiaries did not follow the regulation/constitution. • Qualification of beneficiaries was not competent.
Impact	**More Positive impact than Negative one**	• Expenditure pattern has been changed. As a result more children had chances to go to school. • Business skills and knowledge were enhanced by the training. • Got more business chances. Had senses of self-reliance and confidence.
Relevance	**High**	• Match the National Development Goal emphasising 'poverty • reduction'. • Meets the needs of the community addressing 'poverty and income generating activities'.
Sustainability	**Slightly Low**	• Low repayment rate of Phase I could not create enough revolving fund. • Phase II may be able to have more revolving fund to sustain. • NGO does not have a plan for fund source for next phase.
Conclusion	• In financial management, lower repayment rate and insufficient revolving fund show low efficiency and sustainability. • Also lack of group responsibilities could not achieve project purposes entirely. • However, impacts on individual basis are significant in terms of expenditure, skills & knowledge and self-reliance, and confidence. • In response to the National goal and the community needs in poverty reduction, it is concluded that relevance is high.	
Recommendation	• As microfinance project should be evaluated for a long time, it is too early to evaluate whether this project succeeded or not. • It might be difficult to introduce microfinance immediately now in all areas unconditionally. • After observing the results of Phase II in Bauleni, careful and long-term plans must be made only if there are high needs and strong feasibility for other communities and NGOs to collaborate and availability of fund source.	
Lesson Learnt	• It is important that qualification of beneficiaries (literacy, business experience) is crucial to make project successful. • In this regard, microfinance cannot necessarily reach the poorest of the poor, but it also helps poverty reduction for those who are vulnerable low income residents. • Group solidarity and responsibilities are key issues for sustainability. Particularly leadership is critical in peer pressure in repayment and daily monitoring. • Also performance and qualification of credit officers in NGOs are of crucial importance.	

6.2.6 Community School Development in Chibolya

(1) Organisational Set-up

At the initial stage, Education Committee (EC) and PTA (Parents and Teachers Association) were formed on schedule. Indeed, 4 EC members out of 10 were RDC members. This is a distinctive characteristic in Chibolya, i.e. that many RDC members are sitting on several subcommittees. The EC was cooperative and active in supporting PTA, selecting students and teachers. However, The EC is still a vague organisation in terms of roles and responsibilities. Their roles still overlap with those of RDC. Therefore, their future plan and strategies in education sector must be clarified for the entire community.

The PTA has 14 members which consist of parents, teachers, and RDC members. They should have had many roles and responsibilities during the periods of construction and school running. The chairperson and parents, in particulars, should play a key role in providing voluntary labour and establishing the system of physical maintenance and fund raising for teachers' salary, textbooks and teaching materials. But the PTA, particularly parent members, are very quiet and passive, and rarely voice opinions in the discussions, so their performance was very limited. Since PTA is vital for school development, there is a strong need for their capacity building in order to be more independent and competent. RDC and EC are now planning to organise management training for PTA before the school opening.

(2) Selection of Children and Teachers

PTA, EC and RDC selected 160 children who were orphans, girls and underprivileged. Although the selection process should have been completed by the end of May in consultation with CIM, it was discovered that only 81 children were confirmed as of November 2000. This was because some of them had moved away from Chibolya whilst others had already been enrolled in other public/community schools. PTA, EC did not recognise this problem until the household survey was conducted. The community is now collectively taking action to identify and reselect children.

Six teachers were appointed from the community, but two have already left for other job offers. Four teachers have finished both theoretical and practical training courses and now are ready to start to teach in January. NGO (CIM) and MOE collaborated to provide intensive and comprehensive training. The teachers' allowance still remains a big issue in both CIM and the community.

(3) Community Participation and Institutional Capacities

The project primarily aims at active community participation and mobilisation in the process of planning for construction, management and running. Initially, all stakeholders were enthusiastic in attending meetings/workshops to plan and design the school facilities, forming subcommittees and selecting pupils and teachers. So participation process seemed to work out as expected. Initially, PTA and other voluntary workers contributed some works such as bricklaying of the security fence. However, as construction process went on, participation turn out to be problematic, particularly with regard to incentive. For unskilled workers, CIM offered Kwacha 3,000 for lunch allowance and reasonable wages for skilled labours, but the community requested more than those amounts (Kwacha 3 million per worker for 4 months). Repeated discussions were made between the community and CIM for consensus building, but broke down. Recognising the constraints to promote community participation, CIM was obliged to hire workers from outside the Chibolya community. Eventually, only four Chibolya workers (out of 10) joined construction work.

However, RDC, EC and PTA were not even aware of how many community people were engaged in the construction, and thus they did not seem to follow up and monitor closely. In this regard, construction was not entirely completed through community participation and commitments. It is disappointing that the community failed to promote and fulfil active participation, and enormous misunderstandings and miscommunication caused ill feelings between the community and CIM. Based on this lesson, the community needs more time and experience to implement community managed projects to promote active participation and keep good relationships with NGOs and subcontractors.

In the evaluation workshop, all stakeholders assessed their institutional capacities in participatory manner and results was summarised in the table below and Figure 6.2.5.

Generally, they evaluated themselves quite highly. However, for example, as mentioned above, their monitoring capacity was not satisfactory at all because the community did not recognise the status of workers. In this regard, some indicators are overestimated. This phenomenon often happens in participatory assessment, particularly when the community leaders do not have enough knowledge and insight to analyse themselves.

Overall, it is evident that their contribution level was lower than the other factors, thus priority must be given to enhance capacities and change attitudes to participation and contribution.

Participatory Assessment of Institutional Building

Capacity Factors	Justification	Score out of 10
Leadership	There were strong leaders in each group except PTA.	**8**
Meeting, & Decision-making	Organised the Workshop in April and meetings fortnightly. Most of the members attended and kept meeting minutes.	**8**
Sharing Responsibilities	RDC, EC, PTA had clear roles and responsibilities for the implementation.	**10**
Monitoring & Evaluation	Monitoring was done whenever by-weekly meetings were held. Evaluation was made in the final workshop.	**8**
Community Support and Networking	Got understanding and strong support from the community as a whole, and established networking among RDC, EC and PTA	**10**
Contribution	Community contributed voluntary labour for 3 days a week, but could not continue.	**6**

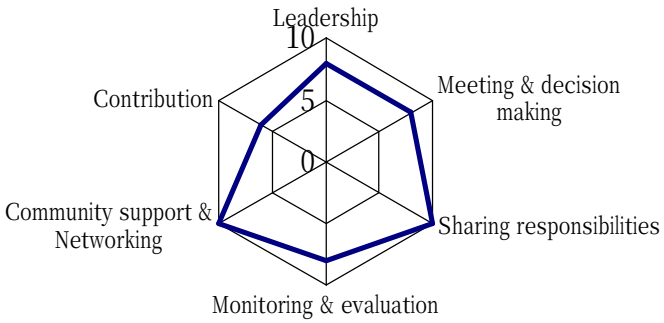


Figure 6.2.5 Institutional Capacity (Chibolya)

(4) Results of Household Survey

The household survey was conducted right after the completion of construction. This survey aims to identify the socio-economic conditions and living standard of each household which will send their child(ren) to the community school. As described earlier, all children (160) were not yet identified due to cancellation of enrolment, so this is the analysis from 124 samples. As shown in Appendix, there are some characteristics particularly in gender balance, their economic status and willingness of contribution to the school. In gender balance, girls are slightly fewer (47%) than boys (53%), so girls must at least be 50% or more than that

according to the criteria. Orphans are 35% which is not many compared to other community schools. Main reason of out-of-school children is economic deprivation and poverty. Most families' income is between Kwacha 50,000 to Kwacha 100,000. This is lower level compared with average household which had more than Kwacha 120,000 when the base line survey was undertaken in 1999. 95% of parents of children said that they are willing to pay PTA fund monthly, but their affordability is between Kwacha 500 to Kwacha 2,000. This illustrates that PTA and EC need to consider each household living and economic conditions and to set amount according to affordability and capacity.

(5) Operation and Management System

EC and PTA did not plan the system of school running on their own during construction period. During the evaluation workshop in November, this subject was highlighted and some issues were confirmed as described in table below. The key issue is how to raise funds for teachers' allowance and other costs for maintenance. The community plans various activities but CIM also addressed to support the provision of bursaries.

Participatory Action Planning (School Management & Running)

1. School Maintenance

Issue	*Who*	*How*
Key Holding	School master 1 Teacher, CIM	All parties have whole set of keys.
Daily Cleaning	Pupils Caretaker	Pupils must clean up classrooms and premise on daily basis. Caretaker clean up toilets and its surrounding.
Security	Security Guard	Security sub-committee under PTA hires a security guard. Protective wall fence with wire.
Repair	PTA Parents/Guardians	Parents/Guardians are responsible if pupils damage. Any other damage will be repaired by PTA with help of RDC.

2. School Running

Issues	*How*
PTA Fund	1. PTA will confirm affordability in each household. 2. After each interview, PTA decides the range of fund.
Teachers' Salary	1. PTA Fund 2. Donor Fund (but not so realistic in the short run) 3. Fund raising (PTA peace walk, Brai, Drama, Lottery, Football game, etc. 4. Assistance from private sector/companies. 5. Income generation (let the facilities for church, kitchen party, wedding and Sunday open market, etc) 6. Assistance from CIM
Teaching Materials	1. PTA Fund and other fund raising 2. Assistance from CIM

3. Other Issues

Education Priorities	School facility should not be used for another purpose other than classes during weekdays
Courtyard	Keep separate space for the activities of girls and boys
Adult Education	Adult education will be held after 16:00 till 18:00
Name of school	Chibolya Community School

(6) Results

1) Positive results

- Community are now aware of the great number of out-of-school children and the importance of non-formal education.
- New subcommittees (Education Committee and PTA) were formed for school development and education issues for entire community.
- This is the first school that community own by themselves, hence they may have sense of ownership.
- Construction costs (particularly materials) are relatively cheaper than ordinary school facilities built by the government.
- Community got support from and networked with several agencies such as Ministry of Education, Zambian Community School Secretariat and a NGO.
- Teachers were appointed and recruited from their own community in order to make the best use of community human resource.

2) Negative results

- Community participation and contribution were not well promoted in the process of construction.
- The issues of incentive were always raised and indeed, it became an obstacle for smooth implementation.
- Community did not contribute voluntary labour until the final stage of

construction so that labour cost became more expensive.

- Monitoring by community was not so efficient. Despite their report that bi-weekly meetings and regular monitoring were conducted, no one in RDC, EC and PTA recognised how much labour was employed from Chibolya.
- As the capacity of PTA is still weak, they find it difficult to manage and run the school immediately on their own.
- There was miscommunication and discommunication between the community and the NGO.

(7) Evaluation

The results of evaluation summary (Table 6.2.10) are outlined in the following section. This summary is analysed base upon the Project Design Matrix (PDM) attached in Appendix (A-2), which shows project objective, outputs and activities. Evaluation summary illustrates five key criteria, i.e. Efficiency, Effectiveness, Impact, Relevance and sustainability. The analysis process and justification for this evaluation can be detailed in Appendices. The evaluation summary also provides recommendation and lesson learnt for future planning and strategies.

Table 6.2.10 Evaluation Summary for Community School

Five Evaluation Criteria	Result	Justification
Efficiency	**Slightly Low**	• Community based construction are cost effective, but labour costs were higher than planned. • Materials were often not delivered on time. Construction was not completed on time.
Effectiveness	**Mostly Achieved**	• Girls, orphans and vulnerable children were selected. PTA was formed under Education Committee, and selected teachers were trained by MOE. • School facilities were completed, but there was very limited commitments and participation in the process of construction.
Impact	**More positive impact than negative one**	• Awareness of education and out-of-school children was built up. • 160 children for enrolment is still small in proportion to out-of-school children. • Community acquired skills of school construction. • Teachers have capacities to teach level 1-4.
Relevance	**High**	• Match the National Education Policy of 'Education for All'. • Meets the needs of a number of out-of-school children and poor families in the community.
Sustainability	**Slightly High**	• Relevant subcommittees (EC, PTA) were formed, but PTA's capacity is very low. • The system of school running was outlined among stakeholders but it was not implemented yet. • There will be continuous supports from CIM (both technical and financial), MOE and ZCSS.
Conclusion	• Generally, community participation and contribution were not so significant so labour costs became bigger than planned. • However, there was strong relevance responding to the Government Education Policy and community needs. • The capacity to accommodate pupils is very limited (160) but there must be potentials to increase number of children expanding facilities. • There are impacts in terms of skill training of construction and teachers training. • Continuous supports from CIM, LCC, MOE and ZCSS will be a strong factor for sustainability of school running.	
Recommendation	• It is not easy to establish a new school where RDC and community have little experience in school development. So strong support from NGOs and experts is necessary. • There might be two ways to assist community school. If there are existing community schools, which are jointly supported by both community/RDC and a NGO, it is effective and efficient to strengthen and expand them as the system of school running is completely established. • If a new school is to be built, it has to be scrutinised how much community/RDC have capacities (from past experience) to contribute and mobilise for participation in the process of construction and school management and running.	
Lesson Learnt	• Where RDC and subcommittee are not mature or experienced (number of projects that they handled and interventions by NGOs/donors), it is difficult to promote community participation and contribution. • Community school is not just to construct a building, but to see how well the community willingly committed to the common interest in participatory manner. School management and running is crucial for sustainability. Until such time that the community can sustain themselves, experts from outside should support financially and technically. • To facilitate implementation, continuing communication and dialogue must be ensured for smooth implementation and trustful relations between the community, LCC, NGOs are of crucial importance.	

CHAPTER 7 DEVELOPMENT GUIDELINES OF LIVING ENVIRONMENT IMPROVEMENT IN EIGHT UUSS

The Development Guidelines are prepared based upon the experience and lesson learnt exemplified by the pilot projects explained before. The Guidelines also aim at finding and identifying the common understandings and principles for all stakeholders/organisations when they implement the Action Area Plans (see the following Chapter 8 & 9). Therefore, these factors addressed in the Guidelines must thoroughly reflected and practised in all projects/communities in the Action Area Plan.

7.1 Integrated Approach for Development in UUSs

7.1.1 Approach and Direction

The problems in unplanned low-income urban settlements are complex and people's needs are various and enormous. Generally speaking, unlike rural areas, unplanned urban settlements have pressing needs in terms of basic infrastructure and social services in congested places where multiple concerns and needs exist. Yet, urban problems are associated not only with physical or environmental aspects but also with chronic poverty resulting from lack of capacities and resources. Needs range from infrastructure services such as water supply and sanitation, roads and drainage, solid waste management, and housing to social and economic concerns such as health, education, unemployment and lack of income. Therefore special attention must be paid to enhancement of Quality of Life (QOL) and degree of Civil Minimum of which urban poor are deprived.

Overall, most important point for unplanned urban settlements is to identify appropriate policies and strategies that serve environmental improvement and poverty reduction.

The conventional approach of assistance by many donors to improve the access to services have mainly focused on sector-level issues that were designed and implemented within a specific area/project and time frames. However, the intervention by single sector could not necessarily respond to the needs of the poor who live in inadequate housing, deteriorating urban environments, and are increasing subject to poverty, low economic growth and social exclusion.

Considering the complexity and diversity in unplanned urban settlements, this Study discovered that the living standard in low-income settlements could not be improved unless Basic Human Needs (BHN) are ensured. BHN includes a set of potable water supply, sanitation, health, and basic education. Also, appropriate

housing, other public services and support for economic promotion are precondition to enhance QOL. As far as urban issues are concerned, these components should not be implemented separately, but rather in integrated way which may have a great impact if they have synergistic effect. Integrated approach is slightly different from multiple sector approach which often introduces and implements various types of projects separately under a wider theme such as city planning programme or regional development programme in order to achieve upgrading environmental conditions in the area as a whole, whereas integrated approach places great emphasis on how each project/sector under the programme (though it is not always programme approach) interacts with each other and creates several impacts by 'integrating' several components together. For example, water supply can be more effective and sustainable if a sanitation system (toilet facilities) and hygiene education can be provided at the same time. School is a place not only for basic education but also for awareness raising of health and sanitation for children and the entire community. Promoting economic activities enables people to pay the cost recovery of public services such as water supply or garbage collection so that sustainable community managed services can be ensured. Figure 7.1.1 schematically explains the interaction among different projects and the expected effects by integrating those projects in urban settlements.

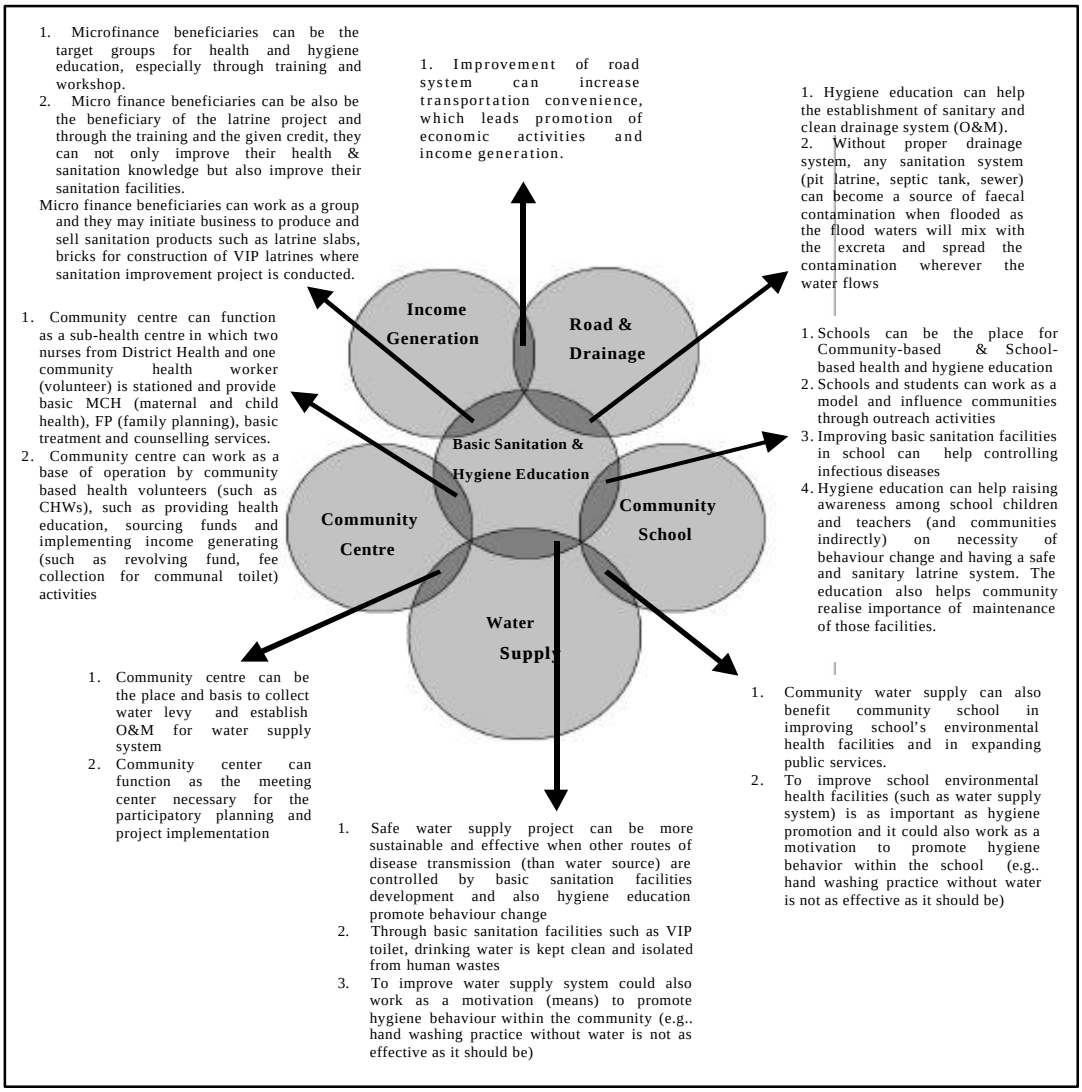


Figure 7.1.1 Synergic Effects by Integrated Approach

Therefore, good practice for upgrading urban settlements involves support which reflects the multiple concerns held by the poor residents (infrastructure, environment, social and economic services), and responds to these needs simultaneously. In other words, there is a need for comprehensive intervention, thus a major effort should be made to adopt integrated approaches in implementation mechanisms. Compared to sector level or multiple sector approaches, they are placed to challenge a variety of the constraints that urban poor face.

However, one difficulty with the integrated approach is that stakeholders such as community, LCC, subcontractors (including NGOs) and donors are required to have higher management capacities to implement and coordinate several components at the same or the right time. For instance, if sanitation and hygiene education are not conducted during or right after the construction of water a

system, a 'safe' water supply system cannot be achieved in sustainable and effective ways, and hygiene behaviour among people cannot be changed. Thus, careful planning for timeframe and budgeting is of crucial importance in expecting more impacts and synergic effects by integrating different components.

Also it should not be assumed that integrated approaches would be a quick and easy way to practice in changing environment and living conditions in unplanned urban settlements. Care needs to be taken that the investment in infrastructure and services will not exceed the capacities of community leaders/organisations. RDC and other CBOs are often overburdened by a number of projects provided by different donors/NGOs who want to complete activities in a short period. In order to avoid this kind of negative experience, interventions should be planned with careful survey, needs assessment, priority settings and planning by all stakeholders such as communities, LCC, line ministries, NGOs and donors.

7.1.2 Priority Areas

In view of this, JST recommends that water supply with hygiene education is the most important and prioritised need followed by basic education for unprivileged out-of-school children. The following is the summary of those components in the framework of the Action Area Plan.

(1) Water Supply

With population growth and increased congestion in unplanned urban settlements, the lack of safe drinking water is a major and urgent concern in all communities. Women in particular are burdened by water fetching, walking and queuing for long periods everyday.

(2) Health and Sanitation

Primary Health Care (PHC) includes Maternal & Child Health Care (MCH), and Health & Hygiene Education and along with improvement of sanitation facilities, should be a focal point to reduce infant mortality rate, malnutrition, and other infectious diseases. Sanitation development can be improved by both appropriate technologies of sanitation facilities such as VIP (Ventilation Improved Pit latrines) system and awareness raising.

(3) Basic Education

In response to high rate of out-of-school children, particularly girls and orphans in urban settlements, development of non-formal education (community school) are effective measures to reduce illiteracy and poverty among urban poor.

Figure 7.1.2 shows the integrated approach and priority settings in the Action Area Plan.

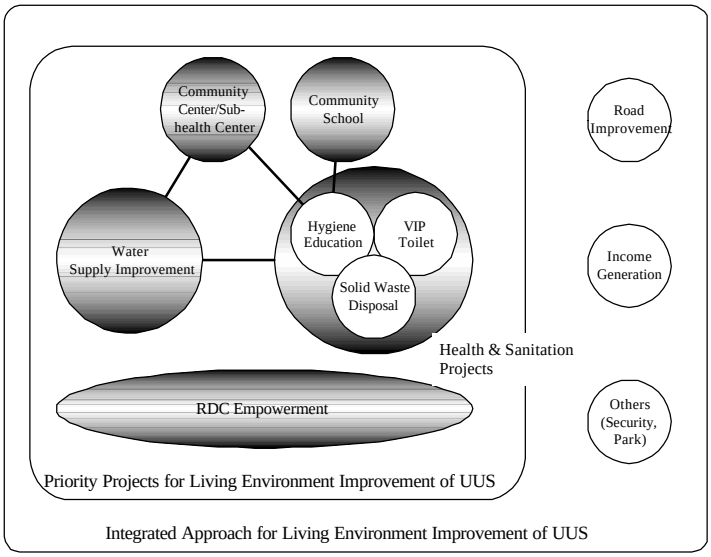


Figure 7.1.2 Integrated Approach and Priority Settings in the Action Area Plan

7.2 Community Participation and Capacity Building

7.2.1 Community Participation

Community participation is a focal point to facilitate sustainable urban development. The key concepts of community participation involve ***Institutionalisation,*** and ***Contribution***. These concepts are the determinants for active community participation and mobilisation in projects of urban settlements.

Institutionalisation aims at establishment of appropriate organisational structure in a community to implement a project and to sustain services in the long term. Community Based Organisations (CBOs) are community institutions to address people's problems and needs and set up goals collectively. Where there are no such community organisations, it is prerequisite to set up organisational structure before the Action Area Plans are launched to facilitate project implementation and sustain community managed services.

It is recognised that ABO (Area Based Organisation), particularly RDC plays a leading role to represent and coordinate the community as a whole, while subcommittees specialise in a particular project/sector and oversee daily operation and management. However, their performance and capacities are different from community to community and project to project. Some communities have a stronger RDC but weak subcommittee(s), and vice versa. In the three settlements where the pilot projects were implemented, RDCs were more directly involved in

public works such as water supply and road construction, while some subcommittees recognise that their roles are specified in social development projects in the areas of heath and education. Even when RDC and subcommittees were put in place as required, some communities experienced difficulties to organise and involve several groups and members simultaneously in a project, because different groups and people had different interests and intentions, and eventually they could not manage to gain consensus on action plan and implementation.

In light of this, it is necessary to create streamlined organisations of ABO or subcommittees that are managed by core members who are fair and honest and have good knowledge and deep insights of community mobilisation and management.

Contribution includes labour, time, materials, and cash provided by community people. Active community participation was demonstrated in the pilot projects. Besides labour and time contributions in the water and road projects, most of the beneficiaries of VIP Toilet project in Bauleni were able and willing to contribute construction materials together with skilled and unskilled voluntary labour.

Although the idea of contribution on a voluntary basis seems to be a universal principle in the context of community participation, it is a controversial topic at the same time and is indeed difficult to realise where community spirit is low and poverty is severe.

The key question is whether labour should be paid. Or it should be clarified who can be paid or cannot be paid and in what situations.

In principle, all members in community organisations such as ABO/RDC, Water committee, Road Committee, Health Committee, Neighbour Health Committee, Education Committee/PTA should work on a voluntary basis without payment. If individuals start to seek personal benefit, it is impossible to unify the organisations, have a sense of ownership and work for community interest. Also any income earned under works of RDC or other subcommittees must be transparent and properly saved as organisational funds. Also Community must be aware how commissions and incentives work and are used for community's benefit.

Another debate is regarding how payments can be differently linked to the nature of works carried out. According to the experience of Irish Aid in Zambia, in resource poor communities, labour is the only real asset which people have, so it is sometimes difficult to link free labour provision to community participation.

The Study (pilot projects) recognised that particular people who were responsible for sustainable management of the project by dedicating their time, all day every day, needed to be provided a decent allowance. For management of community-based facilities, for example, the workforce will be more sustainable if provided with income or incentives for tasks such as Water Tap Attendants, Water Charge Collectors, Voluntary Health Educators, Bricklayers, Plumber, or Security Guards rather than being expected to work on a voluntary basis.

However, issues of incentives/voluntarism cannot be simply standardised for all communities; therefore, we must closely examine these issues by identifying the nature and capacity of community and consulting with RDCs and relevant subcommittees.

7.2.2 Capacity Building

Capacities are the existing strengths and weaknesses of individuals and organisations, which determine the impact and outcome of projects. They are related to people's material, physical, social resources, motivation, and attitudes. But capacities are built over time by various experience and learning. Needless to say, the project's purpose cannot be fulfilled if capacities of a community are not strong enough to carry out and manage the projects.

A major emphasis is placed on sustainable development to upgrade environment and living conditions through capacity building. As far as participation is concerned, capacity building helps to facilitate putting the community in control and having a sense of ownership and belonging. As a result, donors can move back from the project and stay in management as a more strategic and supportive role during implementation stage.

Capacity building implies organisational and technical support to enhance the capacity of community to operate infrastructure services and manage sustainable development. For instance, training and awareness building activities and low-cost technical development that can be sustained by community and LCC are part of capacity building. Establishment of systems and procedures concerning accountability of CBOs to community residents or cost recovery system for water supply, are also part of capacity building. In this regard, broad based skill and awareness development can give a great benefit for sustainable development.

Physical, material, and knowledge capacities include skill development and technologies of water supply, sanitation facilities and other infrastructure works. The training for those skills is developed through training and technical support by

experts, LCC and relevant technical ministries. This type of training encourages the process of 'learning by doing'.

Knowledge capacities include financial management, accounting skills record keeping when projects need to collect cost recoveries and to secure funds.

Also, specific knowledge of health and sanitation/hygiene emphasises awareness building and changes of attitudes and practices, and training of teachers is of crucial importance in ensuring high quality of education.

Social and organisational capacities refer to community structure and system through which people make decisions, establish leadership, solving problems, or organise various social and economic activities. Having these capacities enable people to operate and manage their facilities and sustain community-managed services in the long term.

Social and organisational capacity building primarily focuses on training in the areas of leadership skills, community organisation and management, decision-making, monitoring & evaluation, problem-solving, gender awareness, participatory development and so on. Community leaders are expected to be more accountable and transparent to residents through training.

Even when strong emphasis is placed on capacity building and training, measurable results are difficult to realise especially in a short period. In fact, it is recognised that capacities cannot be changed or strengthened overnight even after intensive and comprehensive training courses, rather, capacities will be built by considerable experience and learning over time. In this regard, capacity building should be considered not as a temporary or ad hoc exercise, but as continuous and systematic support (for example regular arrangement for refresher course) from outside and within the community.

Ultimate goal of capacity building is to ensure empowerment and reduction of vulnerabilities of community organisations/people over time through the process of participation. Empowerment can assure equal relationship among all stakeholders and social, organisational, motivational and attitudinal capacities during and after project implementation. In an early stage, most of the community organisations/people are voiceless, powerless and vulnerable. Participation enables them to negotiate within household, community and society, and strengthen and improve their position. When people are fully empowered by the process of community participation and capacity building, they can be more efficient, self-reliant, autonomous and confident.

Strengthening LCC is also crucially important. LCC plays an important role to support communities in terms of technical/engineering training and community mobilisation. Particularly, Community Development Officers (CDOs) are expected to be the key persons to enhance community's capacities, oversee all projects and coordinate relevant agencies/organisations on daily basis. However, LCC staff does not have enough capacities to fulfil required tasks. There are various reasons of this problem, such as financial constraint and lack of opportunities for staff training system in LCC. Thus, capacity building should be emphasised not only for community people but also LCC, particularly in the Peri-urban section of Housing Department. The Study organised a training course for LCC staff of the Peri-urban section in collaboration with MLGH (Chalinbana training centre) in the areas of institutional management, participatory methodology and proposal writing and community based monitoring and evaluation. This kind of refresher course should be arranged regularly whenever new projects are planned and introduced in order to strengthen their capacities and achieve smooth project implementation.

7.3 Promoting Partnership

Partnership among all stakeholders is a key notion in the future of development in low-income urban settlements where participatory approach is concerned. Partnership concepts need to be at the forefront in designing community-managed services. All partners concerned should be fully engaged in partnership in ways which policy dialogue and participation process are endorsed. The underlying principles of partnership are:

(1) A Shared Commitment and Responsibility in Urban Service Management

Successful partnerships presume not merely agreement but shared responsibility, equitable engagement and equal contribution among all partners. In participation process, all parties need to define their role and equal responsibilities for urban policies and strategies.

(2) Reciprocal Relationship

Reciprocity is crucial in partnership. All parties need to decide collectively how they review and judge each other's commitments, plans, contribution, and outcomes in a common endeavour. Both process and performance aspects must be closely examined.

(3) Continuing Dialogue and Communication among All Partners

Partnership means policy dialogue and communication beyond one particular partner alone. Building an open relationship is crucial where there are considerable misunderstandings and miscommunication. Also, it is important from the point of view of strengthening accountability. The partners involved should include not only communities and LCC, MLGH, but also interested NGOs, other related government ministries or expertise and both bilateral and multilateral donors.

Specifically, the Forum for Unplanned Urban Settlements among the governments, donors and NGO must be regularly organised by the Peri-urban department in LCC.

Furthermore, in addition to the Forum mentioned above, establishment of regular meetings among all stakeholders on the community basis is recommended in order to make close cooperation and mutual understanding for successful implementation in the framework of the Action Area Plans. Some incompatibilities were observed during the pilot project implementation and management between the community and NGO. To cope with this, it is suggested that the members of RDC, subcommittees, NGO, LCC should form the board meeting where they can continue dialogue and address their needs and problem. LCC is expected to have the lead for the establishment of this meeting.

Responsibilities and Contributions of Each Stakeholder

Stakeholder	Responsibilities and Contributions
Community	Participation and Contribution (Time, Labour, Skills, Meeting, Materials, Money), Monitoring & evaluation
LCC	Coordination role among all stakeholders, Human resource development, Technical advice, Training, RDC/CBOs formation, Linkage between community and donors, Infrastructure and land allocation, Monitoring and evaluation
MLGH	Agreement between donors and ministry, Policy guidelines, Coordinate and liaise between line ministries
Line Ministries and Related Organisations *	Technical advice, Policy guidance, Human resource development, Training, Monitoring and evaluation
NGOs	Project implementation, Training, Consultation on specific and technical issues, Community mobilisation, Sensitisation, Monitoring and evaluation, Advocacy
Donors	Financial cooperation, Coordination with LCC, MLGH and other line ministries, Monitoring and evaluation

* Line ministries and related organisations refer to the Ministry of Health, the Ministry of Education and Lusaka Water and Sewerage Company.

7.4 Potential Source for Implementation and Operation/Management

7.4.1 Potential Fund/Financial Source for Initial Development

Considering the insufficient financial source of GRZ as well as LCC, it should be said that external financial aid is presently the sole source for implementation of the UUS improvement plan.

The bilateral and multilateral donors, who are activating with the assistance for GRZ, will be potential fund donors for environmental improvement in eight UUSs. Judging from amount limit and conditions of donors' scheme, Zambia Social Investment Fund (ZAMSIF) of IBRD, UNDP, Irish Aid, as well as Japanese ODA are worth discussion as the fund for the implementation of the improvement plan.

Co-operative assistance such as fund sharing, co-finance, project sharing among donors will be necessary for smooth and urgent implementation of the plan, desired by the community eagerly.

7.4.2 Financial System for Sustainable Operation and Management

On top of capital fund from donors, the community needs to establish a financial system for sustainable and long-term operation and management by themselves once projects (facilities) are completed. Most of the donors and NGOs may invest only initial capital during project implementation, but rarely continue providing running costs afterwards. In this regard, community must endeavour to develop strategies for how to create income and to sustain the community managed services. Community is required to have capacities to find and create fund source on their own.

The variety of sources of income that a community could create is outlined below for reference. These activities create income not only for RDC operation, but also for other subcommittee/group activities based on various sphere in communities such as health centre/clinic, community school, private company and so on.

Example of Income Source for Sustainable Operation and Management

Type of Income	Action
Fund Raising	Proposals to Donors, NGOs Community activities such as Peace Walk, Sports Game, Bria, Drama, Lottery, etc
Levy system	User fee for water/solid waste management
Community Initiative Fund (Group credit scheme)	Get capital, and then produce and sell sanitation goods (soap, chlorine, mosquito nets, latrine slabs) and construction materials (blocks, culverts). The profits must be used for revolving fund
Enterprise promotion	Start small scale enterprises in the areas of solid waste management, drainage construction, latrine suction, etc
Facility rent	Rent for community centre, (parking lots, office space, training room), community school (meetings, churches, open market, entertainment activities, etc)