

DRAFT

3/1/90

302.8 90RE

IRC
INTERNATIONAL WATER AND
SANITATION CENTRE

THE HAGUE, THE NETHERLANDS

RESOURCE MOBILIZATION FOR COMMUNITY-BASED
SANITATION PROJECTS

DRAFT REPORT OF A LITERATURE SEARCH
CONDUCTED BY

EUGENE LARBI

JANUARY 1990

302.8-90RE-9826

Faint, mostly illegible text at the top of the label.
NO. 141/142

WH 9026
302-8 90RE

RESOURCE MOBILIZATION FOR COMMUNITY-BASED SANITATION PROJECTS

<u>LIST OF CONTENTS FOR THE DRAFT REPORT</u>	<u>PAGE</u>
1. INTRODUCTION	1- 1
2. RESOURCE ANALYSIS FOR COMMUNITY BASED SANITATION SYSTEMS	2- 1
2.1 Introduction	2- 1
2.1.1 Resource Requirements for latrine construction	2- 1
2.1.2 Some specific examples of resource requirements and their coverage	2- 5
2.2 Resource requirements for institutional development and project delivery	2- 8
2.2.1 Introduction	2- 8
2.2.2 Logistics for latrine construction	2- 8
2.2.3 Training and manpower development	2- 9
2.2.4 Demonstration sites	2-10
2.2.5 Education and project support communications	2-11
2.2.6 Supervision	2-11
2.2.7 Research and development	2-11
2.2.8 Cost of institutional development and project delivery costs	2-13
2.3 Resource requirements for the operation and maintenance of community based sanitation systems and their coverage	2-14
2.3.1 Introduction	2-14
2.3.2 Role of household and agencies	2-16
- household responsibility	
- agency responsibility	
2.3.3 Some recommendations on the O&M of household latrines	2-18
2.3.4 Operation and maintenance of communal latrines	2-19
3. COMMUNITY INVOLVEMENT IN RESOURCE MOBILIZATION FOR SANITATION PROJECTS	3- 1
3.1 Factors that affect the ability and willingness to contribute cash for sanitation projects	3- 1
3.1.1 Level of income	3- 1
- wages from non-form employment	
- wages from migrant workers	
- income from agricultural activities	
- supplemental income	
- non-financial resources and their importance to project planners	
- non agricultural assets	
- agricultural assets	
- level of income and affordability	
3.1.2 The choice of technology and the ability/willingness to pay	3- 5
3.1.3 Beliefs and expectations	3- 5
3.1.4 Caution in investing scarce funds	3- 5
3.1.5 Competition from free alternatives	3- 6
3.1.6 Opposition from local leaders	3- 6

3.1.7	Limited interest in improvements	3- 6
3.1.8	Financing arrangements	3- 6
3.1.9	Attitude of collectors	3- 6
3.1.10	Difficulties in defining responsibility for payment	3- 7
3.1.11	Difficulties in applying sanctions to defaulters	3- 7
3.1.12	Inadequate administrative procedure	3- 7
3.1.13	Lack of understanding of project content	3- 7
3.1.14	Unfulfilled expectations	3- 8
3.1.15	Delays in project execution	3- 8
3.1.16	Lack of maintenance	3- 8
3.2	How to improve the willingness of communities to contribute cash requirements	3- 8
3.2.1	Generating community participation in financing	3- 8
	- motivation	
	- group pressure	
	- drive towards modernization	
	- comfort, safety and privacy	
	- affordability and profit	
	- education	
	- financial management	
3.3	General summary of some factors that enhance the willingness to contribute financially towards sanitation projects	3-13
3.4	Conclusions on strategies for cost recovery	3-16
3.5	Community contribution of labour and other non-cash resources to sanitation	3-17
3.5.1	Introduction	3-17
3.5.2	Factors that affect the mobilization of labour and materials from community	3-18
	- motivation	
	- timing of activities	
	- coordination of activities	
4.	AGENCY PARTICIPATION IN RESOURCE MOBILIZING FOR SANITATION	4- 1
4.1	Reasons for the low ranking of sanitation among agencies	4- 1
4.1.1	Sanitation is not a felt need	4- 1
4.1.2	Low prestige value of sanitation	4- 2
4.1.3	Ineffective government structures	4- 2
4.1.4	Inappropriate technologies	4- 3
4.1.5	Lack of resources	4- 4
4.2		
4.2.1	Government's role in sanitation projects how the ranking of this role can be raised	4- 4
4.2.2	Some suggestions for enhancing the ranking of sanitation interventions in government budgeting	4- 5
4.3		
4.3.1	Role of external support agencies	4- 7
	- World bank and other regional banks	
	- Bilateral donors	
	- UN agencies	
	- International NGO's and private organizations	

4.3.2	How ESA's can help raise the ranking of sanitation in agency budgeting	4- 8
	- Role of funders of projects	
	- Role of promoters of change that accelerates the development of the sanitation fields	
	- Role as coordinator among sector agencies and ESA's	
4.4	Role of National NGO's in sanitation programmes	4-12
4.5	Role of the private sector and how agencies can help boost this	4-13
4.6	Some suggestions for improving the effectiveness of agency participation in provisions of sanitation services in rural and low-income urban areas	4-13
5.	THE PARTNERSHIP APPROACH TO RESOURCE MOBILIZATION IN LOW-COST SANITATION	5- 1
5.1	Introduction	5- 1
5.2	Financial strategies for implementation of sanitation projects in low-income areas	5- 3
5.2.1	Credits	5- 3
5.2.2	Loans	5- 3
5.2.3	Grants	5- 4
5.2.4	Subsidies	5- 4
	- Level of subsidy	
	- Importance of means testing	
5.3	Subsidy options and their applications	5- 7
5.3.1	Options involving credits	5- 7
	- Loans through credit unions	
	- Capital grants administered through government district based facilities	
	- Choosing which credit facility to adopt for a household	
5.3.2	Capital grants	5- 9
5.3.3	Savings incentives	5-10
5.3.4	Barter agreements	5-11
5.3.5	Cross subsidization	5-11
5.3.6	Enhancement by 'lay-by'	5-11
5.3.7	Summary	5-12
5.4	Special approaches to financing of low-cost sanitation	5-14
5.4.1	Project packaging	5-14
5.4.2	Revolving funds	5-14
5.5	Cost recovery of latrine costs	5-15
5.5.1	Ability and willingness to pay	5-15
	- latrine charges	
	- repayment terms	
	- negative amortization	
	- improving the community's ability to raise cash	
	- improving the willingness to pay	
5.5.2	Collection of latrine costs repayment	5-17
5.5.3	Cost recovery of non-construction costs	5-18
5.5.4	Cost recovery from the poorest in the community	5-18
5.5.5	Dealing with defaulters	5-19

6. OVERCOMING DIFFICULTIES IN RESOURCE MOBILIZATION FOR SANITATION PROJECTS	6- 1
6.1 The need for flexibility in deciding on resource coverage	6- 1
6.2 Some recommendations on resource coverage for low-cost Sanitation projects	6- 2

LIST OF TABLES

TABLE NO.	TITLE	PAGE
1.	STANDARD COMPONENTS OF SOME LOW-COST SANITATION TECHNOLOGIES	2- 4
2.	MATERIALS AND LABOUR COSTS FOR FIVE-USER, POUR-FLUSH LATRINES IN INDIA (1983)	2- 5
3.	RESOURCE REQUIREMENTS FOR SIMPLE-PIT BOTVIP LATRINE	2- 7
4.	SUMMARY OF RESOURCE REQUIREMENTS AND THEIR COVERAGE FOR INSTITUTIONAL DEVELOPMENT AND PROJECT DELIVERY COSTS	2-12
5.	AVERAGE ANNUAL INVESTMENT AND RECURRENT COST PER HOUSEHOLD FOR SANITATION TECHNOLOGIES (1978 U.S. DOLLARS)	2-15
6.	SOME OPERATION AND MAINTENANCE ACTIVITIES AND THEIR COVERAGE	2-17
7.	COST ANALYSIS OF SELF-HELP SANITATION PROJECTS IN BOTSWANA	2-20
8.	SUMMARY OF FINANCING OPTIONS	5-13

LIST OF CASE STUDIES

1. THE BALDIA SOAKPIT, PAKISTAN
2. THE VIP LATRINE OF WANGINGOMBE, THE UNITED REPUBLIC OF TANZANIA
3. THE VIETNAMESE DRY-COMPOST TOILET
4. THE BOTVIP LATRINE OF BOTSWANA
5. COST RECOVERY FOR COMMUNITY LATRINE MAINTENANCE

CHAPTER 1

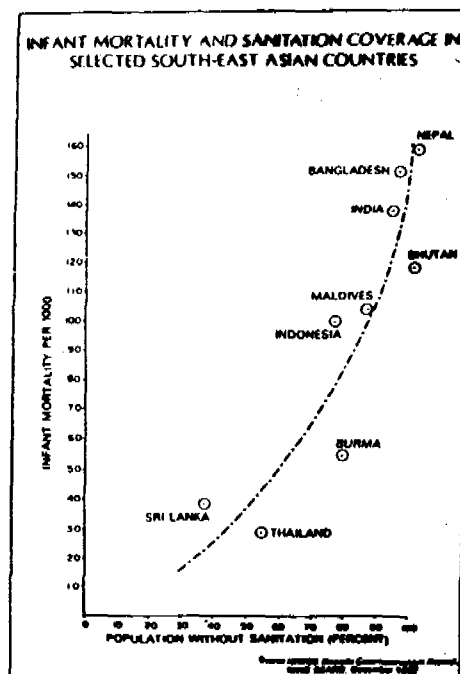
1. INTRODUCTION

Safe water and adequate sanitation have been recognized as two essential ingredients of sound health.

Historic evidence from all parts of the world have proved the same point over and over: - that there can be little or no significant improvement of the health of a community without clean drinking water and the proper use of sanitation; that no amount of medication, mass immunization, improved nutrition or any other intervention will make the desired impact on a community's health as the combination of good water supply and adequate sanitation.

The importance of a proper sanitation need not therefore be overemphasized. All available data have proved that a properly constructed and used sanitary facility is one of the two most crucial decisive steps towards a community's health. Death rates could decrease by as much as 30% and the frequency of diseases by as much as 60% though a properly used sanitation (de Graaf, M. 1989).

The reproduced WHO diagram shown below illustrates these observations quite clearly.



Better sanitation is not only a necessary requirement for better health and socio-economic development of the community. It is also known that an improvement in sanitary conditions is more effective and less expensive than any other preventive health measure to combat water borne and excreta related diseases (which accounts for about 80% of all sickness in India) (George, K.G. 1988). With proper disposal of human excreta, these diseases could be reduced considerably and community health in most developing countries could be improved.

Another important fact to consider is that without adequate sanitation, full benefits of water supply projects cannot be achieved. Bad sanitation aggravates the pollution of water sources and increases the chances of infection.

In spite of all these known facts about the crucial role that adequate sanitation plays in a community's health, latest estimates point out quite clearly that the provision of adequate sanitation lags far behind that of water supply. Latest projections indicate that only 20% of developing countries population will have adequate sanitation as compared to an estimated 50% for water supply by the end of the decade (Rotival, A. 1989).

Together with poor nutrition and the lack of clean water, poor sanitation cuts the average life expectancy at birth by ten to twenty years in developing countries (UNCHS, 1986A). The impact of inadequate sanitation is difficult to see and to measure, and few people are aware of the consequences of poor sanitation on their health. But whereas better nutrition and clean water for all are accepted priorities for most governments in developing countries, sanitation remain a difficult area that governments and authorities only reluctantly are prepared to address. some reason o this discrepancy include:

- (i) The novelty of low-cost sanitation technologies; Conventional technologies like sewerage are not only too expensive but they also require quantities of water for operation which are usually not available to low-income communities in cities and rural areas of developing countries.
- (ii) The difficulty of explaining to people how poor sanitation affects their health and of making them conscious of the dangers of poor sanitation with which they have lived their whole lives. The information that latrines are good for their health is as such not sufficient to motivate a community to participate in the improvement of the sanitary conditions in their area. In the rural areas, where most urban poor come from, generations have lived without any basic sanitation.
- (iii) The taboo surrounding sanitation in most cultures, which makes the subject difficult to discuss (ibid).

In recent years, a consensus has been reached among sanitation experts about the feasibility of certain improved technologies which can improve the living conditions of the urban and rural poor in developing countries. Yet, despite the fact that technically sound solutions to the problem of sanitation in low-income communities is now available, methods of making new sanitation systems accepted and implemented are still not well established.

To achieve an adequate sanitation scheme which will yield the required health and environmental impacts, latrines for low-income urban and rural communities should incorporate the following:

- (i) The widest possible physical coverage;
- (ii) Proper operation and maintenance to ensure continued upkeep;
- (iii) Adequate motivational and educational packages to ensure full usage and to achieve the required impact.

The widest possible coverage is required to achieve the desired impact on a communities health. This is because even where a wide section of a community manage to acquire latrines, the indiscriminate defecation by the rest of the population who do not have latrine facilities increases the risk of contamination of food and water as well as the spread of diseases and puts the whole of the population at risk.

It is also widely recognized that without adequate and continual resources for operation and maintenance of a sanitation system, investments in the field will prove unsound. This is because the full benefits of a sanitation scheme can only be realized when the facility is available for use by the community all the time. Inadequate maintenance could lead to a malfunction of sanitary facilities and lead to the community returning to traditional sanitation facilities which carries with them, health and environmental risks.

Provision of latrines is not the only aim of sanitation programs but only a means to improve conditions. An essential element of a sanitation program should also seek to change the habits of the people in order to ensure that the desired impact is achieved. This means that sanitation projects should not only have to deliver the system, but also should also aim at selling its concepts and use. Hence, the success of a sanitation program does not only depend on how many latrines are built, but more importantly on the extent to which it is used and the impact on the health of the community. This requires sanitation programs to include packages which aim at motivating and educating the community on the importance of sanitation and also the involvement of the community at all stages of a sanitation project.

The achievement of all the three prerequisites for an appropriate and adequate sanitation viz: wide physical coverage, continued upkeep and proper use/impact requires resources in the form of time, manpower, skills, materials and cash.

Historically, the principal source of these resources have been grants, subsidies and loans from governments and external agencies. The potential role of the community as a contributor of required resources has often not been tapped and implementing agencies have been looked upon by the community as the mass provider of sanitation facilities (Kalbermatten, J.M./ McGarry, M.G. 1987). It is however, clearly evident that even with the most cost-effective approaches, external agencies and government budget allocation for sanitation alone can never be adequate to raise all the resources required for the planning, financing, construction, operation and maintenance of sanitation on the scale required to attain the aims of the water and sanitation decade. Most external support agencies and governments now

realize and accept the recipient communities as a potential source of cash, materials, manpower, skills and time that are required for the implementation of sanitation projects.

There is therefore an increasing interest in this partnership approach involving an agency/community interaction towards the raising of required resources for sanitation projects. Most implementing agencies now require recipient communities to assume ownership and greater responsibilities for the construction, management, operation and maintenance of their individual household latrines. The issues of cash raising and cost recovery are also gaining increasing importance.

The aim of this report is to highlight some of the more important issues in the subject of resource mobilization for sanitation projects. As already mentioned, resources for physical coverage in sanitation programs are needed during construction, physical upkeep and during the working life after construction. It is the resources for promoting and ensuring the sanitation improvement within the community (such as training, promotion, advise, hygiene education, organization inputs, replacement/improvement advise etc. etc.) that are needed continuously over the whole life of the sanitation improvement, beginning from the time that the project is first discussed with community members. Unfortunately, this aspect of implementing sanitation programs is also the one which is most frequently forgotten or underestimated.

Chapter two of this report tries to give examples of some resource analysis for these three aspects of some successful sanitation program. The analysis goes on to discuss which of these resources could be provided directly by the community/households, which have a cash requirement and might therefore involve some cash raising by beneficiaries and which of the resource requirements could preferably be raised by the implementing agency.

Generally, resource requirements for sanitation projects can be classified into two groups:

- (i) Those that can be provided directly by the community in kind (e.g. local materials for latrine superstructures and labour requirements for pit digging).
- (ii) The other resources which need to come from outside the community or household and which therefore needs to be quantified in terms of cash requirements.

Chapter three of this report tries to set out the background to the two main kinds of resources that could be covered by the community.

- The communities/households direct contribution (in materials, labor, skills, etc.)
- The community/households donation of cash.

The factors that affect these 2 issues are examined and some possible ways of improving the communities ability and willingness to contribute to the mobilization of resources for sanitation projects are discussed.

Sources of funding from outside the community may be from governments, bilateral donors, the World Bank and other regional banks and external/local NGO's. Chapter four of this report tries to discuss the role of these agencies in provision of sanitation, and also discusses possible ways by which these agencies can be encouraged to raise the ranking of sanitation interventions in their budgeting.

Some important issues from the adoption of a partnership approach towards resource mobilization in sanitation projects include:

- resource requirements for project implementation;
- resource coverage;
- financial strategies to adopt in order to ensure cost containment;
- cash raising and cost recovery from the community.

The first two of these issues are covered in chapters three and four of this report. In chapter five, the last two of these issues are discussed in some detail. The author looks at the pertinent issues concerned in the granting of loans, credits and subsidies by agencies and deals in detail with the various financial options that seem practicable for adoption by agencies in low-income areas and which therefore offers some potential for meeting the identified financial needs of households. The issue of cost recovery of latrine costs and methods for improving a communities ability and willingness to pay for sanitation, cash raising, the problem of dealing with defaulters and options for covering resource requirements that do not go directly into latrine construction are also discussed.

In conclusion, the important point to stress is the fact that covering the necessary resources should be exercise in partnership which involves the agency and the community/household. How the balance is set will vary, but generally community/household should carry as large a part of the responsibility as possible. The difficulties that are encountered in resource mobilization for sanitation projects can be overcome if project planners adopt a flexible approach in deciding on the balance of responsibilities. This approach also requires the need to jointly review with communities/households. Chapter 6 discusses these issues and ends on how further extension and upgrading can be resourced in the future.

CHAPTER 2

2. RESOURCE ANALYSIS FOR COMMUNITY BASED SANITATION SYSTEM

2.1 Introduction

Appropriate and adequate sanitation intervention in low-income communities requires adequate resources in the form of cash, labour, time skill etc. More specifically, these resources are required to ensure that the project:

- achieves the widest possible coverage
- is properly operated and adequately maintained
- achieved the expected use/impact for which it was implemented.

These resource requirements can only be provided from two sources:

- Agency contributions from taxes and revenue, sometimes supplemented by external grants and loans.
- Community/household contributions

Agency contribution in sanitation programs may be directly in the form of specific project expenditures for materials, equipment and labour. In addition, indirect inputs consisting of overhead costs related to agency operation such as transport, administrative costs, planning and design, project support communications etc. may also be involved in sanitation project implementation.

Direct community inputs may include cash payments as well as in-kind contributions of material, labour, food/accommodation for workers etc.

Resource coverage in sanitation projects is the process by which all financial and other resources needed to develop, operate and maintain systems are quantified, sourced and timed to optimize the subsequent mobilization and implementation process (WHO, 1980).

The aim of this chapter is to conduct a resource analysis for sanitation projects with the aim of identifying resource requirements for all aspects of the project implementation. The chapter also seeks to identify which resources have cash components, implying a need for cash raising by the users and recommends possible areas of agency/household/private involvement.

2.1.1 Resource requirements for latrine construction

Most viable low-cost sanitation systems require several components to construct. Depending on the choice of technology, latrine building may involve components such as pits, leaking tanks, squatting slabs, cover slabs, water seal, chute/drop pipes, vents, connecting pipes, flyscreens etc.

Each of these components require resources to construct/manufacture or acquire. The various resource requirements for the more important components are discussed as follows (C stands for cash, L for Labour, T for Time and S for Skill).

1. PITS

Requirements for pits are:

- Labour/Tools for digging (C, L)
- Timber frames to mark the size of the pit (L)
- reinforcement to support pit sides (L)
- mason to line pits (C)
- site clearance of surplus material (L)
- cement, sand, blocks/bricks (C, L)

Coverage: Most pits are small and shallow and in most cases, the excavation work can be done by the household or with hired labour.

2. CLOSED TANKS

Resource requirements:

- Labour/Tools for digging (C, L)
- Timber frames to mark the size of the pit (L)
- cement, aggregates, sand (C, L)
- reinforcement steel (C)
- mason/carpenters/steelbenders (C, S, T)
- quality control/supervision (S, T)

Coverage: Households could provide all locally available components - timber frames, aggregates, sand and also contribute cash towards the acquisition of those items which agency provides - cement, reinforcement rods. Prefabricated tanks could be produced from an agency operated workshop and households can buy tanks (subsidized if necessary)

3. COVER SLABS

Resource requirements:

- cement/sand/aggregates (C, L)
- chicken wire mesh/reinforcement rods (C)
- mason/steelbender/carpenter (C, S, T)
- tanks for curing slabs (C)
- supervision (S, T)

Coverage: Cover slabs are best pre-cast. This could be carried out in agency-run workshops with trained volunteers or paid craftsmen.

Construction of slabs is also carried out by private contractors in many project areas. Households can contribute to coverage by buying slabs (at subsidized rates if necessary)

4. SQUAT PLACES/WATER SEALS

Resource requirements:

- production workshop (C, L, T, S)
- moulds/formwork (C, L, S)
- fabrication materials (cement, sand, fibreglas etc.) (C, L)
- technical skills (C, S, T)
- supervision (quality control) (C, S, T)

5. DROP PIPES/CONNECTING TUBES

Resource requirements:

- production workshops (C, L, T, S)
- moulds/formwork (C, L, S)
- fabrication materials (C, L)
- technical skills (C, S, T)
- supervisor (C, S, T)

Coverage: Drop pipes/connecting tubes may be produced in a central workshop or may be produced commercially by private sector and sold to households (at subsidized prices if necessary).

6. VENTS/FLYSCREEN

May be commercially produced and procured by agency for sale to community or may be in the form of masoned chimneys or hessian or reed tubes which are then plastered.

Superstructure

Requirements:

- bricks/blocks, cement, sand, aggregates, roofing material., rafters (timber frames), doors, paint, labour (C, L)

The superstructure is usually built with the same technology and building methods used for other parts of the house. Hence it is mostly built by the households themselves.

Table 1 shows a summary of some sanitation technologies with their standard components and the way they are usually manufactured.

TABLE 1. STANDARD COMPONENTS OF SOME LOW-COST SANITATION TECHNOLOGIES

COMPONENTS	TYPES OF SYSTEMS					PRODUCTION METHODS		
	C E S P O O L	A Q U A P R I V Y	P O U R F L U S H	C O M P O S T L A T R I N E	V I P	M O S T L Y P R E F A B R I C A T E D	S O M E T I M E S P R E F A B R I C A T E D	M O U L D S U S E F U L
15cm. VENT-PIPE					X	X	X	X
SMALL VENT-PIPE	X	X	X					
CHUTE/DROP-PIPE			X			X	X	
WATER SEAL	X		X			X		X
SQUATTING PLATE	X	X	X	X	X	X		X
OVER SLAB/DOME	X	X	X	X	X	X		X
CLOSED TANK		X		X		X		X
LEACHING TANK	X		X				X	
CONNECTING PIPE		X	X					X
PIT	X		X		X			X

Source: UNCHS (Habitat), 1986
 "Community Participation in low-cost sanitation" page 18.

2.1.2 Some specific examples of resource requirements and their coverage

Case Study I - The low-cost pour-flush water seal latrine in India

The complete list of resource requirements for the completion of each latrine is shown in table 2.

TABLE 2 MATERIALS AND LABOUR COSTS FOR FIVE-USER, POUR-FLUSH LATRINES IN INDIA (1983)

Item No.	Description	Quantity	Unit	Rate	Costs	Subtotal
A. SUBSTRUCTURE						
Materials						
1.	Cement	108	Kg.	0.065	7.02	
2.	Sand	0.33	m ³	5.0	1.65	
3.	Aggregate	0.24	m ³	8.2	1.97	
4.	Steel reinforcement	7.0	Kg.	0.48	3.36	
5.	Bricks (standard)	294	No.	0.08	23.52	
6.	Pan and Trap Unit	1	No.	10.0	10.0	
7.	Footrests	2	No.	0.28	0.56	
8.	Prefabricated pipe connecting drain to leach pit (asbestos cement, 75mm diameter)	4	length	0.77	3.08	51.16
Labour						
9.	Supervisor	0.05	Man-day	2.0	0.10	
10.	Bricklayer	0.94	Man-day	2.0	1.88	
11.	Carpenter	0.04	Man-day	1.7	0.07	
12.	Steel Bender	0.12	Man-day	1.7	0.20	
13.	Plumber	0.15	Man-day	1.7	0.26	
14.	Labourer	3.6	Man-day	1.6	5.76	8.27
15.	Contractor's overhead (15% of materials and labour)				8.91	
16.	Government engineering and/or supervision (15% of materials, labour, and contractor's overhead)					10.25

a/ Expressed in US\$ at an exchange rate US\$1 = Rep. 10 (1983)

TABLE 2 Continued

Item No.	Description	Quantity	Unit	Rate	Costs	Subtotal
A. SUBSTRUCTURE						
Materials						
1.	Cement	27	Kg.	0.065	1.76	
2.	Sand	0.08	m ³	5.0	0.40	
3.	Aggregate	0.06	m ³	8.2	0.49	
4.	Bricks (standard)	176	No.	0.08	14.08	
5.	Door	1	No.	8.3	8.3	
6.	Paint	1	Litre	0.80	0.80	25.83
Labour						
7.	Supervisor	0.05	Man-day	2.0	0.10	
8.	Bricklayer	0.56	Man-day	2.0	1.12	
9.	Steel Bender	0.12	Man-day	1.7	0.20	
10.	Bhisti	0.16	Man-day	1.7	0.27	
11.	Labourer	2.2	Man-day	1.6	3.52	5.21
12.	Contractor's overhead (15% of materials and labour)					4.66
13.	Government engineering and/or supervision (15% of materials, labour, and contractor's overhead)					5.36
					Sub total:	US\$ 41.06
					TOTAL COST:	US\$ 119,65
					say,	US\$ 120.0

Source: Mara, D.D. "The Design of Pour-flushing Latrines" Technology Advisory Group (TAG) Technical Note 15, page 26-27.

Coverage: For the above examples, the entire construction work was done by contractors hired by the implementing agency. Household contributions were limited to cash contributions decided on the basis that:

households having at least two out of the three utilities (water and electricity connections and bucket latrines) - 100% loan; households having one of the facilities - 50% loan and 50% grant; households with no utilities within the household - 25% loan and 75% grant (Roy, A.K., 1984).

Actual coverage of material requirements was as follows:

Contractor - acquired bricks, sand, brick ballast and stone grit.
 Agency - provided slabs/domes, pans with water seal, footrest and supervision.

Case study II

The self-help Environmental Sanitation program of Botswana (BOTVIP latrines)

The various resources required for the construction of each latrine and their coverage is as shown below in table ..
 The resource coverage of all the aspects involved in the implementation of the program are attached at the end of this chapter (in table 7)

TABLE 3 RESOURCE REQUIREMENTS FOR SINGLE-PIT BOTVIP LATRINE

<u>Household Expenses</u>	<u>Unconsolidated ground</u>	<u>Consolidated ground</u>
Superstructure		
Materials		
Blocks	50	50
Cement	12	12
Rafters	4	4
Roofing	8	8
Doors	8	8
Paint	4	4
Labour	90	90
Substructure	30	0
Accessories	30	0
Sub-total	236	206
 <u>Agency Expenses</u>		
Substructure		
Materials		
Blocks	55	0
Concrete foundation	20	25
Cement	12	0
Compressor costs	0	25
Labour	50	50
Accessories		
Slabs	30	30
Vent pipes	10	10
Fly screen	2	2
Seat liner	35	35
Door	8	8
Household contribution	(30)	(30)
Labour	4	4
Transport	126	126
Sub total	322	285
UNICEF Contribution	P215	P171
District Contribution	P107	P114
TOTAL	P558	P491

2.2 Resource Requirements for Institutional Development and Project Delivery

2.2.1 Introduction

Resource requirements for sanitation projects do not only go into direct physical coverage and physical upkeep. In addition to these two aspects, resources are also required continuously over the whole life of a sanitation improvement program in order to promote coverage and ensure proper use/impact. Unfortunately, this major component of sanitation improvement programs is also the aspect where the need for adequate resourcing is often omitted or underestimated.

Activities under this aspect include:

- community mobilization and development
- engineering supervision and plumbing
- logistic support
- monitoring and evaluation
- manpower training
- hygiene education
- setting up of organization for promotion, advise cash-raising systems, refresher inputs etc.

The rest of this section discusses some of the activities under this section, the resource requirements for these activities and their possible coverage.

2.2.2 Logistics for Latrine Construction:

Activities in this area include procurement, transportation, establishment of production units for prefabrication and storage facilities. These are briefly discussed as follows.

Latrine component production centres

Latrine components such as the water seal for pour-flush latrines, squatting places and cover slabs are best prefabricated. This requires the establishment of some type of central production unit.

Some activities involved in prefabrication which require resources are:

- costs of vehicles for cartage of materials and prefabricated components
- costs involved in quality control of prefabrication
- costs of setting up promotion units including the acquisition of moulds.
- material and skills for the prefabrication process
- storage of prefabricated components.

Transportation

Sanitation projects involve a large number of very small construction tasks, which together require large inputs for transportation of Project personnel, material and components. Cost components under transportation may be:

- costs of trucks for cartage of materials and construction materials.

- costs of transport for project personnel (field vehicles, motorcycles, bicycles etc.)
- cost of maintaining vehicles.
- costs of operation of these vehicles (fuels, oils)

Procurement

Adequate preparation for procurement of material and components is necessary in order to ensure that work is not held up at some stage due to shortages.

This will often require sanitation projects to setup a central procuring body. In the absence of such a body, procurement can be done by the local authorities who can invite bids by tender for supplying materials. Resources might be required for activities such as:

- communication with suppliers
- overhead costs for stationary, keeping of records etc.
- cost of obtaining foreign exchange
- transport for personnel and materials
- planning administration costs
- market surveys etc.

2.2.3 Training/Manpower development

Every sanitation program needs special orientation to the programme planning and direction personnel in promoting techniques, public relations, technology adjustment to suit local needs/conditions/user activities/habits, financial implications, funding methods and procedures. To achieve the objectives of training activities should be directed towards all personnel involved in the project viz: field staff, peripheral staff and the community.

Field staff:

Will require training on the types and details of latrine components and the assembly location of pits and seat, epidemiological and structural hazards connected with wrong siting of units and the techniques for planning for materials, labour and construction in a continuing programme.

Peripheral staff:

Comprising masons, plumbers, fitters etc. will require an initial training to develop the skills needed for their jobs and for the mass manufacture, transport and assembly of latrine points.

Community:

Training of the community should be directed at all sections of the population children, women, men and local leaders.

Children will need training to develop a proper pattern regarding the use of sanitation facilities.

Women are responsible for the personal and environmental hygiene of the household and their daily activities and examples in behaviour set the pattern for the life style of the whole generation. They therefore need training in the new patterns of behaviour that will be required in new sanitation practices and

in the understanding and routines of use and maintenance of the new technology.

Men are usually the builders of latrines, therefore their involvement in the decision to undertake construction is critical for the latrine acquisition. They are therefore the people that the training and motivational programs should seek to convince about the benefits of improved sanitation. They should also be instructed on the routines involved in construction.

Local leaders:

Sanitation programmes should seek to mobilize local leaders in project planning and implementation. The contributions of school teachers, religious leaders and other respected persons is essential to achieve full participation of the community. Their role is to act as agents of change in the community (WHO, 1978).

Resource requirement for training and manpower development

Resources in the form of cash/labour/time/skills are required for these activities associated with training and manpower development.

- the establishment of training centres equipped with proper training aids
- the development of prototype models
- personnel/instructors
- training workshops/seminars for the community
- overhead costs involved in the organization.

2.2.4 Demonstration sites

Demonstration latrines built in public places within a community plays an important role in making people familiar with the use of latrines. It is also important in highlighting the following:

- Problem of initial motivation for community involvement and local body's commitment.
- Variants in engineering solutions to suit different site conditions and alternative materials for cost reduction and maximum cost benefits.
- Resource coverage patterns that could be applicable to different economic and social levels and types of latrine construction.
- The institutional arrangements that are best suited to meet the immediate and long range needs of the programme.
- Techniques for periodical evaluation and appraisal of program implementation.

Resources are required for the following activities:

- organization and planning for demonstration units
- community organization for selection of demonstration sites, generation of interest in on-going construction etc.
- cost of materials, equipment, labour, transport and supervision for construction of demonstration latrines.

2.2.5 Education and Project Support Communication

Health education and project support communication are needed to convince the community on the need for sanitation and to explain the whys, whens and hows of the sanitation program. It also needs to explain how the latrines are built, how they are used and maintained and should focus in particular on those motives which are found to be most relevant for the people in the community.

Resources are required for the following inputs concerned with education and project support communication:

- radio programs, plays
- newspaper advertisements
- house-to-house calls by health education teams
- booklets, tapes, posters
- meetings, seminars, workshops, etc.
- sociological studies, demonstration units, etc.

2.2.6 Supervision

Because latrine construction is very simple, a considerable degree of self-help is possible. Nevertheless, a well established inspection routine for the construction is necessary to ensure that the necessary standards in terms of quality are achieved. At certain stages, for instance, after completion of the foundation, inspections should precede the authorization to continue with the next phase of work. This is important not only to ensure the quality of the work by also to re-assure the amateur builder that his work is alright. Resources required for organization of supervision and actual supervise work are

- salaries for personnel (could involve foreign exchange)
- transport for personnel
- overhead costs involved in organization
- freight cost (for expatriate personnel).

2.2.7 Research and development

Research in sanitation projects is required to improve the scope, content, methodology and implementation of a sanitation programme and it is up to the implementing agency to identify possible areas for research in the social, administrative, technical and operational phases and to initiate measures for these at appropriate stages in a constant endeavour to improve the quality of the sanitation programme.

TABLE 4 SUMMARY OF RESOURCE REQUIREMENTS AND THEIR COVERAGE FOR INSTITUTIONAL DEVELOPMENT AND PROJECT DELIVERY COSTS

Activity	Resource requirements				Recommendation for Coverage		
	Cash	Labour	Time	Skills	ESA	Govt	Comm
1. <u>Mobilization/hygiene education</u>							
- Materials	X		X		X	X	
- Personnel	X		X			X	
- Transport	X		X		X	X	
- Seminars etc.	X		X	X	X	X	
2. <u>Logistic Support</u>							
- Vehicles	X		X		X	X	
- Equipment	X		X		X	X	
- Personnel	X		X			X	
- Fuel and oil	X		X			X	
- Misc. expenses in Prefabrication, etc.	X	X	X	X	X	X	
3. <u>Manpower Training</u>							
- Personnel	X		X			X	
- Material & Equipment	X		X		X	X	
- Transport	X		X		X	X	
- Workshop etc.	X		X	X	X	X	
4. <u>Research/Demonstration</u>							
- Material	X		X		X	X	
- Personnel	X	X	X	X		X	
- Studies/Evaluation	X		X	X		X	
- Transport	X		X	X	X	X	
5. <u>Supervision/Planning</u>							
- Personnel	X		X	X	X	X	
- Transport	X				X	X	
- Overhead costs	X				X	X	
- Freight	X		X		X	X	

2.2.8 Costs of Institutional Development and Project Delivery

The costs of this aspect of a sanitation program depends on factors such as:

- type of latrine technology
- scale of coverage
- location of the project area
- communities attitude to sanitation, level of awareness for good sanitation facilities etc.
- general level of development of the project area (will affect cost of transport, communication etc.)

Cost estimates for this sector is therefore different for each project area and reliable estimates can be made only when these variables are known. Two examples are given below to indicate the relative costs involved for this aspect of sanitation project implementation.

Example 1 - The Punjab Sanitation Project (Pakistan) (Govt of Pakistan/IBRD/CIDA, 1988)

Activity	Cost per latrine installed (Rs)	% of total cost
Demonstration	339	22.6%
Training + Promotion	122	8.1%
Promoters Salaries	257	17.1%
Revolving Fund	782	52.1%
	1500	

Hence proportion of total project cost spent on institutional development and project delivery = 54%

Example 2 - The Botswana self-help Environmental Sanitation Project (Govt. of Botswana/UNDP/World Bank/UNICEF, 1988)

Activity	Costs (in thousand of Pulas)	% of total costs
Mobilization/health education	337	7.9%
Logistical Support	952	22.4%
Manpower Training	268	6.3%
Research/Demonstration	108	2.5%
Supervision.Planning	978	23.0%
Construction	1602	37.2%
	4245	100%

Hence 63% of all project costs went into institutional development and project delivery.

These two examples show how much variation there can be in the proportion of costs that goes into promotion latrine construction, use and input and how local conditions affect input requirements. For example in the Botswana project, alone a quarter of all the total costs went into the provision of transportation alone.

Mara D.D. (1985) states that the costs of institutional and project delivery costs may constitute 15% - 50% of the total cost of a sanitation program. He recommends that a good rule of thumb in the absence of adequate information is to assume that 30% of project costs or 45% of the sum of materials and labour goes into this aspect of sanitation project implementation.

2.3 Resource requirements for operation and maintenance of community based sanitation system and their coverage

2.3.1 Introduction

Though proper operation and maintenance is recognized as a critical component for the success of any sanitation program, it is often the most neglected component. This stems for the fact that O&M of sanitation programs:

- require a recurrent budget allocation which central treasuries of local councils and implementing agencies are very reluctant to support;
- is if not included in development program budgeting (except maybe for the first few years);
- lacks the prestige and profile of construction projects;
- is faced with the inability of implementing agencies inability to plan an effective strategy for transferring responsibilities to the community or other local bodies (World Bank, 1988).

A properly operated and maintained sanitation scheme requires resources in the form of cash, time, labour and skills. As indicated in table 5 below, the resource requirement could be quite high, even for low-cost sanitation technologies and may be as high as 40% of the investment costs depending on the choice of technology.

Given the magnitude of the resources required, most implementing agencies find it difficult to manage O&M activities on a mass scale on government grants alone. The need for the involvement of the community in this aspect of project implementation is therefore compelling. The realization is that the successful operation and maintenance of household latrines requires a partnership approach involving the joint cooperation of implementing agencies and beneficiaries.

Sanitation project planners must remember that responsibility for a scheme can only be assured if there is a sense of ownership which is best achieved if the community/household is meaningfully involved at all stages of the project development from feasibility study through detailed planning to actual construction. Where collection of revenue for operation and maintenance is involved, planning should ensure that the responsibility for the collection of revenue and its control is

community based. Other important ingredients for a proper operation and maintenance are adequate training and continued agency monitoring and technical support.

TABLE 5 AVERAGE ANNUAL INVESTMENT AND RECURRENT COST PER HOUSEHOLD FOR SANITATION TECHNOLOGIES (1978 U.S. DOLLARS)

Technology	Mean TACH	Investment cost	Recurrent cost	Percentage of total Investment recurrent	
Low cost					
PF toilet	18.7	13.2	5.5	71	29
Pit latrine	28.5	28.4	0.1	100	..
Communal toilet	34.0	24.2	9.8	71	29
Vacuum-truck cartage	37.5	18.1	19.3	48	52*
Low-cost septic tank	51.6	40.9	10.7	79	21
Composting toilet	55.0	50.9	4.8	92	8
Bucket cartage*	64.9	36.9	28.0	57	43
Medium cost					
Sewered aquaprivy*	159.2	124.6	34.6	78	22
Aquaprivy	168.0	161.7	6.3	96	4
Japanese vacuum-truck cartage	187.7	127.7	60.0	68	32
High cost					
Septic tank	400.3	269.9	130.4	67	33
Sewerage					

.. Negligible.

a. Per capita costs were used and scaled up by the cross-country average of six persons per household to account for large differences in the number of users.

(Source: Kalbernatter et al (1982)

Appropriate Sanitation Alternatives . A technical and economic appraisal

It is therefore essential that all arrangements for operation and maintenance are specified and clearly understood by the community in the planning stages of sanitation projects. It has to be decided at this stage who requires what, who pays for repairs and which procedures apply. Where repairs are involved, it has to be decided at the onset how much the community/household can do themselves as this influences cost, as well as the necessary inspection schedules. It should be realized that more self-help in O&M does not necessarily relinquish agencies of their responsibilities for routine inspection since more self-help generally means a greater necessity for routine inspections on the part of agencies. Community participation in the planning stages of a sanitation project should include a discussion of the use of maintenance routines. This helps in making the working of the system clearer to the future users and in an absolutely necessary step in ensuring proper use and maintenance once construction is complete.

Failure to agree on future arrangements and routines during the planning stage will undermine the proper use and maintenance of the system.

2.3.2 Role of households & Agencies

The basic requirement of a successful low-cost sanitation is the current use and maintenance of latrines. This requires a partnership of agencies and communities and cannot be performed properly without a formal procedure.

2.3.2.1 Household responsibility

Generally, the user has the responsibility of developing a 'latrine routine' which involves three parts.

- (i) Proper use of the latrine
Involves routines such as the use of the appropriate anal cleansing material and adequate quantities of water in waterborne systems.
- (ii) Cleanliness of latrine
To prevent malfunction and to encourage the continued use.
- (iii) The ability to detect and repair (or report to agency if necessary) any malfunctions (UNCHS, 1986A).

2.3.2.2 Agency responsibilities

Agency's direct responsibilities in operation and maintenance involves a routine which comprises the following.

- regular monitoring of the systems performance
- detection and countering the improper use of the latrine
- servicing and repairing of the system (ibid).

The regular monitoring of the system's performance could be done in the basis of an established inspection schedule. The development of such a schedule has the added advantage that:

- it enables the early detection of any malfunction and enables proper remedial measures to be taken
- it is an effective way of promoting the users to fulfil their responsibilities in O&M as well as cost recovery. The integration of cost recovery with maintenance and inspection provisions is known to be acceptable to most users.

The inspection schedule should specify which components require periodical servicing, and should generate data for periodic reports. Such reports can then be used to assess the performance of the system and if necessary to make improvements. Some indications for proper use and maintenance are:

- cleanliness of the superstructure
- presence of malodorous conditions
- presence of insects (such as flies, mosquitoes, maggots, cockroaches etc.)
- overflow of tanks
- blockages of pipes, water seals
- physical condition of component (leaks, cracks, care-ins) (ibid).

TABLE 6 SOME OPERATION AND MAINTENANCE ACTIVITIES AND THEIR COVERAGE

O&M Activity	Resource requirements				Recommendations for Coverage	
	Labour	Cash	Time	Skills	Househ.	agency
1. Daily cleaning of latrines/ smoking out insects/disinfection	x				x	
2. Daily filling of water containers (in pour-flush latrines)	x				x	
3. Routine inspection of vents and cleaning by pouring water through it	x				x	
4. Inspection and replacement of flyscreens in VIP latrines	x	x			x	
5. Topping of household aquaprivies	x				x	
6. Checking and filling of water- seal in pour-flush latrines	x				x	
7. Covering of fullpits with soil	x				x	
8. Removal of stabilized solid waste from pits	x				x	
9. Desludging of pits and tanks	x	x	x	x		xx
10. Sludge treatment and waste disposal	x	x	x	x		xx
11. Deblocking of connecting pipes and sewers	x	x	x	x		xx
12. Repair of leaks, cracks and care-ins	x	x	x	x	xx	xx
13. Switching position of drop pipe (in double vault system)/division of discharge to second pit (in double pit Pour Flush system)	x				x	

Note. xx - indicates those activities that could be contracted out.

2.3.3 Some recommendations on the O&M of household latrines

- i. The most important step in improving communities participation in O&M is for them to recognize the need for its taking responsibility for this aspect of project implementation. This is enhanced by encouraging community participation at the planning and construction stages.
- ii Project authorities should as much as possible get women involved in the implementation of sanitation projects. This is because in most communities, work related to hygiene and sanitation is a responsible of women. Also, men, unlike women do not require the same amount of privacy with regards to use of sanitation facilities. For example, in Bangladesh (UNCHS, 1986B), women who have inadequate private toilets may only relieve themselves before sunrise and after sunset or have to perform such activities in isolated spots where they are particularly vulnerable to rape and molestation. Involving women in O&M of latrines would ensure that O&M activities are in the hands of those who need them the most. This would ensure better operated and maintained facilities and would be an effective way of avoiding long delays in the repair of malfunctions in latrines.
Project planners should therefore consult with women on the design of new latrine technologies. Sanitation Projects should run training sessions on the utilization of latrine services (both inside and outside the house) for the principal users - women.
- iii Properly operated and maintained demonstration latrines could go a long way in helping a community to become familiarized with the technology involved and could help them to understand how to keep latrines functioning. Demonstration latrines should therefore, be designed, constructed and operated in a way that will enable the community to monitor its operation and develop confidence in their workability.
- iv Householders (communities must be trained to identify when latrines need repairs, how repairs can be done, who should repair water and the resource requirements. Training requirement could be achieved through organized workshops which should as much as possible involve women, who are the main beneficiaries of latrines. Agency and household responsibilities in O&M should be clearly defined during planning stages of sanitation projects.
- v For households in peri-urban areas, environmental and health constraints on pit emptying and availability of land might require the provision of desludging facilities by agencies or the private sector. Thus besides normal resource requirements involved in rural areas, additional financing might be required for the following:
 - the capital cost of vacuum-truck
 - vehicle maintenance (usually estimate to be about 10% of capital costs/year)
 - vehicle operating costs
 - labour requirements
 - sludge treatment facilities and disposal sites.

The costs of these additional requirements could be covered by the imposing of sanitation levy on households who require these facilities. In areas where the use of stabilized excretal water is marketable, councils could subsidize the cost involved in desludging and recover these subsidies from the sale of noms or stabilized wastes.

- vi The confidence of households in the suitability and the performance of latrines could be fostered in the knowledge that the council makes provision for services such as technical advice and supervision in construction, operation and maintenance.
It is recommended that councils maintain groups (each group comprising of skilled and trained personnel and a labourer per 2000 latrines) (Roy, A.K. et al, 1984) for this purpose. Project implementation should make provision for the training of personnel selected by each village for this purpose.

2.3.4 Operation and maintenance of communal latrines

- The responsibility of maintaining public latrines should be the responsibility of local councils. Maintenance can be done by the local authority or can be contracted out.
- The local council or private contractor responsible for operation and maintenance should provide water and lifting facilities. Trained attendants should be on shift and each block of latrine for all periods of latrine use.
- Resources for operation and maintenance could be funded by levies which are imposed on users. Separate attendants (for cleaning and revenue collection) should be provided where large numbers of users are expected. It might be advisable for the community to decide on the age limit below which levies should not be imposed. For example, school kids should be exempted from payment.
- Public latrine maintenance could also be contracted out to a contractor on the payment of a fixed amount to the local authority. The contractor will then be responsible for the operation and maintenance of these latrines and retains charges from the users. Levies imposed should at least aim at full recovery of operating and maintenance costs, including overhead costs and contractors profit.
The communities interest could be represented by a sanitation committee or cooperative whose duties should include deciding on tariffs and routine inspections to ensure what latrines meet required standards.
Recent developments have proved that even in some of the poorest communities, people will be willing and can contribute to the O&M of such sanitation facilities. An example of such a scheme is given in case study five which is attached at the end of this report.

TABLE 7 COST ANALYSIS OF THE SELF-HELP SANITATION PROJECT IN BOTSWAWA

	UNICEF	DISTRICTS	MIN.OF	HOUSE-	UNDP/WB	TOTAL	PERCENT
1. MOBILIZATION HEALTH EDUCATION							
MATERIALS	34	3	10	0	25	72	7.9
PERSONNEL		100				100	2.4
TRANSPORT		148				148	3.5
SEMINARS/MISC	12	5				17	0.4
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	46	256	10	0	25	337	7.9
2. LOGISTICAL SUPPORT							
VEHICLES	322	18				340	8.0
EQUIPMENT	212					212	5.0
PERSONNEL		158				158	3.7
FUEL AND OIL		210				210	4.9
MISCELANEOUS	16	16				32	0.8
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	550	402	0	0	0	952	22.4
3. CONSTRUCTION							
MATERIALS	442	90		360		712	16.8
LABOUR		440		360		800	18.8
SUPERVISION		90				90	2.1
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	442	440	0	720	0	1602	37.7
4. MANPOWER TRAINING							
TRAINING	8	16	80		155	259	6.1
MATERIALS		3	6			9	0.2
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	8	19	86	0	155	268	6.3
5. RESEARCH/DEMONSTRATION							
MATERIALS	20					20	0.5
LABOUR		12				12	0.3
STUDIES/EVALUATION	46				30	76	1.8
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	66	12	0	0	30	108	2.5
6. SUPERVISION/PLANNING							
PERSONNEL		48	60		470	578	13.6
TRANSPORT		192	25			217	5.1
OVERHEAD/MISC.		60	50		25	135	3.2
FREIGHT	48					48	1.1
	-----	-----	-----	-----	-----	-----	-----
SUBTOTAL	48	300	135	0	495	978	23.0
7 TOTALS	1160	1429	231	720	705	4245	100.0
8 PERCENTAGE CONTRIBUTION	27.3%	3.7%	5.4%	17.0%	16.6%		

CHAPTER 3

3. COMMUNITY INVOLVEMENT IN RESOURCE MOBILIZATION FOR SANITATION PROJECTS

3.1 Factors that affect the Ability and Willingness of Community to Contribute Cash for Sanitation Projects

Numerous sanitation projects never develop beyond the demonstration stage because project planners often have enormous assumption about the communities ability and willingness to contribute required resources needed for the project implementation.

Cash mobilization from communities for sanitation projects can be assured only when the community is adequately motivated to perceive the need for sanitation as a priority. Other factors such as the communities understanding of the ownership and control over the sanitation facilities and the provision of appropriate credit facilities and financial management are also important in ensuring maximum level of cash mobilization from community.

Some of the common problems that affects the ability and willingness of the community to contribute cash are:

- level of income
- costs of technology adopted
- financial arrangements for implementation
- beliefs and expectations about sanitation project implementation
- caution in investing source funds
- opposition from local leaders
- limited interests in improvement
- attitude of collectors
- difficulty with defining who is responsible for payment
- difficulties in applying sanitation against difficulties
- inadequate administrative procedures
- lack of understanding of project context resulting from inadequate communication support
- unfulfilled expectations
- delays in project execution
- lack of agency involvement in maintenance

These factors are each briefly discussed as follows:

3.1.1 Level of income

Socio-economic data on rural households in many developing countries often display a wide range of incomes and also a wide range of opportunities for enhancing such incomes. The knowledge of the level of income and the general economic status of the community is vital to the project planner in accessing the ability of the community to afford the adopted technologies and also to establish the context within which the issue of the

affordability of sanitation improvements and the needs for subsidy can be evaluated.

Sources of cash incomes are numerous. In addition to the opportunities for earning regular wages from employment, there may be other opportunities for earning supplemental cash incomes from various agricultural activities such as "cottage" businesses or part-time trader on crafts.

3.1.1.1 Wages from non-farm employment

Wages from this source represent an important source of cash income in rural households. In Lesotho (Baker, J.S. 1988), household surveys in a variety of rural communities show that the proportion of households having this source of cash varies from about 20% - 35% or more. Sources of such wages may be either private or public sector in nature.

Workers are employed in retail sales or as waiters, domestic teachers, construction workers or in clinical jobs, secretarial and accountancy positions, factory, employment, police, nursing or laboratory technicians, drivers, chiefs, water branch workers, agraric extension workers, office cleaners, watchmen etc.

3.1.1.2 Wages from Migrate workers

In some rural communities, this source of income constitutes a major source of cash income to households in both rural and urban areas.

The tradition of workers (mostly male) to migrate to major industrial towns, mining areas, construction sites etc, has existed in many parts of the world. eg. Statistics published by the Central bank of Lesotho (Baker, J.S. 1988) showed that official number of Basotho employees in South African mines over a 10-year period was about 120,000 (ibid).

During the actions compliance order in Nigeria in 1983, over 1.5 millions illegal migrant workers from neighbouring countries were repatriated to their countries of origin.

Cash flows from such sources may be in the form of a regular remittance which is often deposited into an amount until the migrant worker returns.

Such workers also send significant sums of money and goods into their country upon their return, depending on their ability to return a portion of their living allowance. In Pakistan, incomes from nationals working in neighbouring oil-rich arab countries constitute an important source of income required for latrine acquisition in many households (Drucker, D. 1986).

3.1.1.3 Income from Agricultural Activities

Most households in rural areas are involved in agricultural activities of one form or the other. The cash contributions from this source is rather minor although the harvests from agricultural activities constitute the most important aspect of the economic well-being of the people. Cash incomes from agricultural activities usually include the sale of surplus farm produce, sale of livestock, sale of wool or mohair, rental of draft animals, income from poultry and egg sales, etc.

The cash contribution from this source is usually small because most farming activities are on a subsistence level and also because of the fact that there is a great deal of bartering of goods and services in rural communities.

3.1.1.4 Supplemental income

This source of cash includes a wide variety of activities, in many instances by rural women who must fill their time while their husbands work on the farm, mines etc. Women in particular have entered into a number of income-generating activities including the brewing and the sale of beer and other liquor, the purchase of commercially brewed beer for resale, the purchase of vegetables for resale, knitting, handicrafts and dressmaking. Men also do earn some supplemental income from part time construction work. Though incomes in this group can only be approximately quantified, they could be substantial and comparable to those earned by regular wage earners.

3.1.1.5 Non-financial Resources and their importance to Project Planners

Most rural households also have access to non-financial resources including under-used labour, goods, produce and other assets of durable nature which could be converted into cash or directly in the acquisition of latrine facilities. The ownership of such non-financial resources becomes important when implementing organizations have to determine whether or not households have sufficient cash income and/or other resources to enable them to acquire a latrine without financial assistance:

Unless subsidies are used automatically to reduce the cost of every latrine constructed within a community, or otherwise applied to all households without any regard to financial capabilities of households, some form of means test must be applied based on a definition which typically involves the knowledge of a household's financial resources as well as physical possessions and other assets.

In most communities in developing countries, it would seem consistent to include underused labour as an economic asset in planning for a sanitation project since most of them involve major contributions of labour from the citizens of the communities involved. It can be assumed that for most communities, labour is available in substantial amounts and can be used in one form or the other towards the acquisition of a latrine (Baker, J.S. 1988).

A socio-economic survey therefore, should include the investigation of the ownership of various assets for each household.

In general, assets can be divided into agricultural and non-agricultural assets along the following lines:

3.1.1.6 Non-agricultural Assets

- Building/home with galvanized metal roof
- Fenced plot with latrine
- Water tank

- Motor vehicle
- Stove
- Sewing/knitting machine
- Radio
- Furniture
- Bank, credit union or postal savings account.

3.1.1.7 Agricultural Assets

- Fields (defined in terms of area)
- Trees (Fruit or other productive trees)
- Plough
- Planter or cultivate
- Ox-cart
- Livestock and poultry

Though a statistics of the ownership of these various types of assets present no meaningful picture of non-financial wealth in rural communities, there is the principal question of whether or not government will determine the ownership of assets to be an indication that the financial assistance is not needed in acquiring a latrine. For example, if a household claims only scant amounts of financial income and yet possess significant amounts of personal and agricultural assets, government may well rule that household ineligible for financial assistance and/or subsidies. On the other hand, a household with only a few essential assets and a low level of cash income would clearly qualify for whatever financial assistance measures can be made available.

Based on a World Bank publication and figures given by ministries and organizations in several African countries, it has been determined that the household income which each income group can afford to spend on sanitation will be as follows (Heeves, P.J. (1983):

- | | |
|---------------------------------|-------|
| - lower/lower mid-income groups | - 2% |
| - middle-income groups | - 3% |
| - high-income groups | - 4 % |

These figures are used to estimate what the capital costs of latrines would be if it is to be a affordable to a household.

3.1.1.8 Level of Income and Affordability

It is clear therefore that the level of income and the availability of other non-financial resource influences a households level of affordability of latrine costs.

Households without remittance income or regular wages would of course need more financial assistance in the acquisition of latrines. In these cases, it might happen that without such measures as the sale of assets or the provision of labour in exchange for latrine components and services, there would be a substantial need for a subsidy.

As we move further towards the bottom of the level of income ladder, the project's facilitative role becomes more important,

the interaction of village health workers, health assistants and rural development assistants all have to operate to find ways and means of assisting households in this group to acquire latrine facilities. The project planner has to know what coverage options are available for providing subsidies, the advantages and disadvantages of each and use these or decide on what optimum grant and/or subsidy package consistent with government objectives, donor policies and practical constraints.

3.1.2 The Choice of Technology and the Ability/Willingness to Pay

The choice of technology also affects the cost of latrine acquisition to the user and hence has a direct link on the ability to acquire latrines as it determines the financial cost to the user and hence the monthly payments required. On the basis of income levels alone, sewerage facilities and septic tanks are often deemed inappropriate in rural areas and can only be applied on communal basis in low-income urban areas.

Viable technology options for low-income areas should require little or no water and treatment should preferably be on-site. They should be low-cost. In project planning it is important that the community should be involved in choosing the technology. The scope of participation consists mainly of providing project staff (social researchers, economists, sanitary engineers) with complete and reliable information on the important factors which determine the choice of the system.

3.1.3 Beliefs and Expectations

Beliefs and expectations which affect the willingness to pay for sanitation in the community may include a conviction that it is the government's role to meet such needs. This might be an outcome of previous experience or the belief that certain classes of people who have more money and therefore better accommodation (such as senior government officials) are provided with sewerage (or an other municipal service) at no cost at all or at a minimal cost only. Another opinion may be that since the government is the interested party (because the initiative came from its end and not the people and no subsequent attempt was made to get beneficiaries participation in planning) then the government should pay for it. Sometimes, beneficiaries may perceive loans as being a kind of grant which does not have to be required. This may be the case where earlier schemes in the area had been free or where preparatory waste was inadequate or where beneficiaries are aware that initial capital was provided by a donor.

3.1.4 Caution in Investing Scarce Funds

This factor can also be a constraint. Uncertainties about the control of benefits, life span of the latrines or other similar aspects may result in a community being reluctant to contribute to cost recovery. For instance beneficiaries may not have secure land rights or may not have enough confidence in a new unfamiliar technology. Other reasons which makes beneficiaries cautious may be that the householder might not feel they have sufficient guarantees on the life span or the process of emptying latrines

and therefore, will be unwilling to risk what, to them, would be a considerable capital investment.

3.1.5 Competition from free Alternatives

Free alternatives for excreta disposal such as open field defecation or flimsy surface latrines may influence willingness to pay where owners have no major objection to the alternatives and are unaware of associate health risks.

3.1.6 Opposition from Local Leaders

Opposition from local leaders to payment for such services has been known to occur where such leaders have been elected on a platform which included free services, or where they oppose the project for other reasons (such as the fact that they were not initially consulted and feel that it usurps their authority).

3.1.7 Limited Interest in Improvements

Limited interests in improvement will obviously affect how much a household will be willing to pay for latrines, even when they can easily afford to do so. A particular example is the case of occupiers of rental property who may not wish to improve someone else's property unless they are secure from eviction, while the landlord may not wish to invest in improvements because he is forbidden by law to increase rents correspondingly, or in practice may not be able to collect any rent increase. Equally, where payment has to be made for regular maintenance (eg municipal emptying), the occupants may not feel that they can bear the expenses, while the owner may fear having his property left with overflowing latrines, in any event there will be reduced enthusiasm for the sanitation scheme.

3.1.8 Effect of Financing Arrangements on Ability/Willingness to Pay

Financing arrangements such as the level of grants available, whether credit is provided or not, the period of amortization, interest rates, monthly payments, the collection system employed and so on, will also affect the willingness of a community to pay for a latrine installation. Experience has demonstrated that the community's attitude is much affected by the way cost recovery is done and the way funds collected are managed. Questions as to who controls their expenditures and what they are made on, the issue of receipt, condition for loan repayments and incentives for early repayment are all important in motivating a community to pay for sanitation schemes. Uncertainty about whether funds collected would be used for community welfare might not encourage repayments.

3.1.9 Attitude of Collectors

Sometimes, village sanitation committee representatives may not work hard enough to recover costs. Elected representatives may be reluctant to pursue recovery of costs for fear of losing goodwill or popularity. The failure to issue receipts could also discourage payments.

3.1.10 Difficulties in defining responsibility for payment

In situations in low-income urban areas where most of the residents of the household are tenants, it is difficult to define who the beneficiaries of the improved service are and therefore who is responsible for payment.

In many cases, there would be a difficulty with collecting money from tenants for sanitation improvements, even when they are willing to pay nor is it considered feasible to recover costs from landlords who would use the changes as a justification for raising rents or for refusing permission to upgrade. These difficulties makes it rather difficult for authorities to attempt direct cost-recovery in upgrading of sanitation inn urban low-income areas.

3.1.11 Difficulties in applying sanitation against defaulters

Identifying effective sanitation or penalties for defaulters is difficult especially in low-income urban areas.

Repossessions of new latrines are unrealistic because houses are mostly privately owned and cutting off water often proves ineffective. Most households in urban slums rely on a communal water point and experience was shown that most illegal house connections in most cities are in these areas.

Moreover, the exercise of cutting of water often takes so long to implement that it is often difficult to relate it to non-payment of sanitation facilities. Legislation and enforcement methods have a history of low-success and are considered not cost effective.

3.1.12 Inadequate Administrative Procedures

Many local authorities are simply incapable of keeping pace with existing payments owing to old fashioned accounting methods and inadequate manpower resources.

This problem often leads to a backlog of repayments. The problem is made worse by in peri-urban areas by the numerous small payments which have to be collected as fast growing low-income peri-urban areas are brought into municipal financial structures. Even in places where such problems have been recognized and mechanization of billing and other accounting procedures is introduced, the start up of collections for latrine acquisitions are sometimes delayed until after latrines have been made available. As a result, people get used to having the services without having to pay for them and this makes it even more difficult to enforce payments at a later stage (UNCHS, 1985).

3.1.13 Lack of understanding of Project Content

Implementation team members must make sure that all information concerning technology choices financing, construction, operation and maintenance are clearly laid our and fully understood by the community otherwise a situation might arise in which a self-reliant, socially cohesive community might feel they were tricked into affecting something they did not understand and would therefore not appreciate the necessity to pay (ibid).

3.1.14 Unfulfilled Expectations

A related problem which affects willingness to pay is that of expectations. The implementation team in its zeal to "sell" the project may unintentionally raise expectations of the community as to the type of improvement the community will be receiving. When after constructions such a latrine falls short of expectations this might become a serious reason for unwillingness to pay.

3.1.15 Delays in Project executed

Unfulfilled expectations caused by delays in implementing agency in executing the project or in supplying materials could also contribute to an unwillingness to pay. This is especially the case where the householders have to approach the implementing agency to sign the agreement for provision of latrine and perhaps pay a deposit. Unfulfilled promises of high performance or lack of accountability due to failure to explain the delay might kill the communities motivation and lead to an unwillingness to pay.

3.1.16 Lack of Maintenance

Dissatisfaction with maintenance could also be a primary reason that could affect the willingness to pay. In areas where the community expects the service of the implementing agency or local council in maintenance activities such as digging of new pits, emptying filled pits, routine inspection, supply of replacement pits etc.; the absence of this could generate a lot of disillusionment and may result in an unwillingness to pay.

3.2 How to Improve the Willingness to Pay for Community Based Sanitation Projects

3.2.1 Generating Community Participation in Financing

Community participation is necessary at all stages of planning and implementation to ensure an efficient cost recovery. The community has to be involved in the taking of such decisions as:

- what sanitation systems to adopt
- what financial procedures should govern the implementation
- what construction procedures should be arranged
- what operation and maintenance procedures to adopt.

In deciding what financial procedures will apply to the project, the community can participate by discussing, estimating and deciding with project staff the following matters:

- the various components that together make up the total cost of the project and the cost per unit;
- the cost to be borne by the users and the resulting grants and subsidies, if any;
- the loan and cost recovery system to be used including disbursement and replacement schedules.

The degree of participation that is achievable will ultimately depend on such factors such as motivation, education and affordability.

These factors are discussed as follows:

3.2.1.1 Motivation

It is conventional wisdom that rural people are not interested in improved sanitation and will not invest in latrines. Yet in several projects (e.g. India, Lesotho, Zimbabwe) there have been sanitation projects which resulted in surprisingly high demand for sanitation once, community awareness of the convenience, privacy and health benefits have been established well enough to get community motivated.

Project staff too often assume that the community has the same motives with regards to improving their sanitary conditions as they have themselves, whereas this is seldom the case. The development of a strategy for financing and cost recovery should be based on some understanding of that motives people have to behave in a certain way.

Sanitation programmes will only generate community participation and will only meet with success if motivation is so strong that sanitation becomes a priority to the users. In this respect, it is essential that all requisite basic knowledge about the future users of the facilities to be provided are known. Such information can be acquired through socio-economic surveys. These surveys should collect information about the users prevailing options, attitudes and motivations as well as skills.

Based on the information obtained from such a survey, the authorities implementing the programme can decide how the programme will motivate the participants and what education and training will be required.

The approach of asking people what they like in a social survey is not often very helpful. Frequently, there might be a discrepancy between peoples proclaimed choice and their actual behaviour. Perhaps they wish to please the investigator while their true feelings remain hidden.

The most reliable ways to find out the motives behind a certain behaviour are:

- To play the devils advocate ie. to criticize the users choice as inferior and let him/her defend it.
- To observe the users actual behaviour and question him/her about it (UNCHS, 1986A).

Users often find it easier to explain what they dislike than what they like eg. misuse and non use of toilets, operational failures due to misuse etc. can give many clues about motivation whereas stories about discomfort, dangers and disturbance often indicate feelings which are not openly mentioned.

Some issues that motivate the community to participate in sanitation programmes are:

- group pressure;
- comfort, safety and privacy;
- affordability and profit;

These are discussed as follows (ibid):

3.2.1.1.1 Group Pressure

Group pressure is perhaps, the most important motivating factor to the communities participation in sanitation. This may take the form of political pressure whereby, the authorities make house-to-house checks and regularly review progress and costs repayment. It may also take the form of group pressure among the participants. The mere fact that most people accept and pay for their latrines exerts a psychological pressure on defaulters and late-acceptors to do the same. Those who have complied will remind the others and in the end, these latecomers and defaulters may find the social cost of lagging behind too high.

Compliance with authority also plays a great role in community participation and cost recovery. In most communities, there is considerable internal pressure to comply with decisions taken by the leaders after consultation with the community. Thus even if the individual disagrees with it, it is not easy to disobey and face questions from others.

School children also play an important role in influencing the parents. Parents will find the appeal by their children not to lag behind or to pay for latrine costs as other parents have done a strong form of group pressure.

It is therefore advisable to avoid rushing decisions and to give the community time to discuss and consider the sanitation project. If after some time, the leadership agrees to implement the programme, then most members will be inclined to obey whether they understand or not.

3.2.1.1.2 Dive for modernization

A very common motive that contributes to the acceptance of a latrine is the wish by households to look modern. In Pakistan, Tanzania and Viet-nam, participants in latrine programmes proudly announced this by putting up signs or by building the latrine more beautifully than the rest of the buildings in the compound (See case studies 1, 2 and 3).

3.2.1.1.3 Comfort, safety and privacy

Old latrines as well as badly designed (constructed) latrines are often associated with fears of falling into them and of possible collapse, foul odours, insects and the sense of uncleanness. When people start to appreciate the absence of these unpleasant aspects of the old latrines, they will be motivated to participate in a sanitation programme. The knowledge that a latrine is safe contributes a great deal to its acceptance and usage - particularly among children.

It is also appreciated if the latrine can be built close to the dwelling so that one does not have to walk in the dark to reach the latrine.

In some societies, it is not only necessary to show that the latrine is safe from the structural point of view but also to dispel hidden fear of sorcery, for instance by pointing out that the latrine will become inaccessible to evil-wishing outsiders. This is important towards contributing to the acceptance of the latrines by schoolchildren.

A survey among school children in Kenya revealed the following:

Source of fear and reluctance to use latrines	Percentage of Schoolchildren
Black magic	35%
Being left alone	14%
Snakes and other animals	86%
Falling into pit	56%
Smells, filth and insects	48%

Source: UNCHS, 1986A, page 20.

This survey shows that it is not the lack of knowledge, but anxieties that made children avoid latrines at home and in schools.

It is known that in India, some women do not eat lunch so as to avoid having to defecate in the daylight. Another survey in a latrine programme in Southern Bangladesh (Gibbs, K. 1984) which families had to erect their own superstructures showed that the frequency of usage by women was directly linked to the quality of the superstructure and the amount of screening it provided, whereas such badly screened latrines were the most popular with children of school going age.

Hence the possibility of having ones own latrine can also be an important motive to own a latrine (UNCHS, 1986A) (Gibbs, K. 1984).

3.2.1.1.4 Affordability and profit

These factors may also constitute a strong motivating factor towards the acceptance or rejection of a latrine. Early designs of the Vietnamese Composting toilet (see case study 3) were rejected because of their inefficiency in delivering manure in time for each agricultural cycle (on which most of the people's income was based). If the compost was not ready in time, people opened the vaults of the toilet and used the raw excreta, thereby

defeating the purpose of the latrine. The users only accepted the system when the design was modified to cut down on the composting period from three to two months, thus making it ready in time for use on the farms.

In Botswana (case study 4), the sanitation campaigns did not link toilets to family health but rather to the health of the cattle, the main source of income for the population. The authorities related the losses of cattle due to measles to the non-use of toilets by the community. Thus, the economic profit of a system may be difficult to establish, but it is nevertheless, one of the most effective motivating arguments. Family health is also important as a profit argument but it is much more complicated to establish and appears not to be so effective as a motivating factor.

Another economic factor that is obvious is the economic benefit that the whole community stand to achieve as a result of training facilities that come with sanitation projects e.g. masons trained in Baldia (Pakistan) and Waging'ombe (Tanzania) (see case studies 1 and 2) for a sanitation project became self-employed latrine builders. Their skills as builders were in demand for other types of construction work as well. In this way, the latrine project contributes to the general development of the community as a whole.

3.2.1.2 Education

Most sanitation projects emphasize health education as the proper way to generate community participation. Studies on participators in sanitation projects however indicates that health education does not contribute much to participation or to a change in sanitation habits.

It may even increase fears and discourage to use of latrines by its emphasis on demonstrating the tenable effects of all kinds of diseases.

The type of education that motivates the community is not so much as what happens inside the body but rather what happens to the Community as a whole.

This education should be in the form of what is usually called "project support communication". Its purpose should be to explain the whys, whens and hows of a sanitation program. It should show how the latrines are built, how they are used and maintained and should focus in particular on those motives which have been found most relevant for the people in the community.

The use of radio programmes, plays, posters and meetings could be quite effective in dissemination of information. The issues of use and maintenance of facilities should be stressed in such efforts.

Demonstration latrines in public places (eg. in schools) plays an important role in motivating people and making them familiar with the use of latrines and such facilities should be kept in an exemplary condition at all times. The construction of demonstration latrines in full scale is reported from all successful projects though the availability of scale models that can be carried along by extension workers helps in explaining construction and the use of the latrines (UNCHS, 1986A).

The promotion of competitions between households, communities and even districts helps to boost the collective interest of sanitation. Awards for excellence improve the status of this traditionally despised subject. Education should also focus on school children as they can be reached easily. Educational material can be added to their normal learning programmes.

House to house calls by community workers also plays an important role. Visits by female extension workers will more easily reach the women in the household who are often the managers of sanitation in the house.

3.2.1.3 Financial Arrangements

Sometimes, the fear of costs and effort required to install and maintain a latrine may deter a potential user from participating. For many clients, financial arrangements are difficult to understand and there is usually a great reluctance to commit oneself out of fear of being cheated. There is therefore an advantage in presenting a standardized package which not only defines the construction methods and the routines for inspection and maintenance of the latrine but also explains financial obligations and sanctions in case of failure.

Project staff must have the right arguments that stand to dispel such fears. The availability of extension services, supply of materials, assistance in construction, advantages of prefabrication, availability of moulds, tools and building kits are some of the points which may persuade the user that affordability is assured.

Experience has demonstrated time and again that willingness and ability to afford latrine costs depends not only on the level of income and the cost of the facility but also on how the money is collected and the way it is managed. Questions to who collects the funds and how they are collected, who controls their expenditures and what they are made on, the level of grants available, whether or not credit is provided, the period of amortization, interest rates, monthly payments and other terms of loan repayment and what the incentives for early repayment are, are all important in motivating the community to accept and pay for sanitation schemes.

There is therefore ample evidence to show that expectations of what even the rural poor can afford is better than what is actually the case. Cost Recovery of more than just the recurrent costs of basic services is possible if the perceived need for latrines is strong, if the community has ownership and control over the facilities and if appropriate credit facilities and financial management are in place.

3.3 General summary of some factors that Enhance the Willingness to Contribute financially towards Sanitation Projects

1. Involve the community at all stages of planning and implementation.

2. Structure software aspects of the program to get community adequately informed, educated and motivated about the benefits of improved sanitation.
Some important points that motivate the community are
 - group pressure
 - drive for modernization
 - comfort, safety and privacy
 - affordability and profit.
3. Financial arrangements for latrines should be clearly worked out and clearly explained to the beneficiaries.
This should cover the following points:
 - Total cost of the latrine (including costs of any additional works where they might be required, supervision changes, grants, loans and cash contributions that will be required from recipients.
 - The terms and conditions for the loan repayment, ie. the rate of interest, period and arrangements for repayments, incentives for early repayment and penalties that could be applied in case of a default.

These are very important in order to avoid the situation where community might feel they were trickled into accepting a latrine which they were not ready and capable to pay for.

4. Fees should be socially graduated to favour the financially weaker sections of the community if possible.
5. Fee payment should be planned to take the seasonal ability to pay into account.
6. Receipts should be provided for payments and utilization of fees should be made public. This allows the least opportunity for leakage and mistrust.
7. Monthly payments should be constant.
8. No special privileges should be provided for officials and staff who are involved in implementation.
9. Construction cost of latrines should be less than 5% of usual house construction costs.
10. Costs of emptying pits should be incurred over long periods say once every 5 years and all costs should be borne by house owner.
11. The agreement should state clearly when loan repayments should start.
12. An up-front change before construction should be done by users to implementing agency to substantiate commitment. This should be a substantial amount say 10% (of latrine costs) and its withdrawal should be approved by an official of the sanitation committee. This helps check backtracking.

13. Payments through banks should be encouraged wherever possible - especially in urban areas. A system that operated in urban areas in Pakistan (BKH 1989) involved the bank preparing and issuing passbooks to the beneficiaries in which pages are reserved for each payment. Monthly payments are complied by the bank and forwarded to the sanitation agency. The Payee's passbook is stamped and signed at each payment. In this way the payee even if when he/she was illiterate was able to keep track of payments. Likewise the sanitation agency was able to track incoming payments and easily identified defaults through monthly submission of computerized account and payments to the sanitation agency. Through the cost of these bank services in Pakistan were fairly high (about 14% of total collection), this system was very effective and enabled collection to be done more effectively through a proven method without increasing the level of staffing of sanitation agency. Administrative costs involved in cost recovery was also cut down.
14. Where the technology requires some form of agency involvement in construction and maintenance, cost recovery can be enhanced if it is integrated with maintenance and inspection provisions. The linking of professional services to fee/levy repayment is acceptable to most users.
15. Project staff should try not to raise expectations too high but should be quite frank about whatever technologies they are presenting. If a latrine falls far short of what the community perceived, they might feel "tricked" and this would affect willingness to pay.
16. In peri-urban areas, it is very important that the agreement defines in very clear terms, who is to be responsible for payment of the latrines in order to avoid conflicts between tenants, house owner and implementing organization.
17. Since in many cases, dealing with defaulters presents a problem, the project should seek ways of ensuring total cost recovery before the actual construction gets completed. In the implementation of the Environmental Sanitation and Protection Pilot Project in Botswana, steps taken to ensure cost recovery from households involved the following arrangements:
 - the householder pays 50% of the cost of the scheme before construction begins;
 - following the initial payment, the Village sanitation assistant (VSA) visits the plot and constructs the ringbeam;
 - the householder digs the pit;
 - the VSA ensures that the prefabricated slabs are delivered and placed and the first 3 courses of the superstructure foundation are done;
 - the householder pays the outstanding 50%;
 - the seat insert and ventpipe are delivered and installed.Such arrangements minimizes any conflicts and in paying 50% up front, the householder demonstrates his/her commitment to the programme and assumes responsibility for building the

latrine. Also, splitting the payments allows the householder more time to save (Basaako et al, 1983).

18. In low-income peri-urban areas, the payment of fees for sanitation and other services could be made a condition for granting/renewing plot holders right to occupy the premises.
19. If the initial investments are treated as a revolving fund, so that repayments are used for the provision of sanitation for the other members of the community or for other development programmes, this would promote cost recovery because the community then ensures that community pressure is put on non-payers who would be considered selfish individuals not interested in contributing to the communities development.

3.4 Conclusions on Strategies for Cost Recovery

It is becoming increasingly clear that in low-income peri-urban areas, conventional approaches to collection and administration which were designed to handle small numbers of high-income households must be modified.

More emphasis should be placed on mechanization as a means of dealing with a large number of small payments. It is also important that such changes should be accompanied by other approaches if the problems described above are to be overcome. The most important of these is the need to involve the community at all stages during the project. It is important that the cost recovery consequences of the project should be stressed upon right from the first dialogue with the beneficiaries and throughout the duration of the project.

Penalties for defaulting can only be effective if they are imposed with the tacit consent of the community who must understand the need for both cost recovery and the enforcement of penalties against defaulters.

The operation of the initial systems as revolving fund would encourage the community to ensure that enough pressure is brought on defaulters to settle payments.

Lastly, the possibility of including existing community based organizations as intermediaries should be explored and Harnessed wherever possible since these people are more able to put effective pressure in defaults.

Sometimes the implementing agency may determine that it is administratively cheaper to offer latrines or latrine components to beneficiaries free of charge. Though this may lead to a more ready acceptance of the latrine by the beneficiaries as most free commodities are, it would not necessarily follow that the facilities would be put to the proper use. For example, it was found during the early phase of one latrine programme in Bangladesh that latrine slabs were being used as doorsteps and washboards.

The lesson is that it does not necessarily follow that if latrines or latrine components can be offered free of charge, it is better to do this. Equally, forcing people to construct latrines as a precondition for receiving some other facilities

such as water supply does little or nothing to ensure that the latrines are actually used.

Therefore it is considered good practice in low-cost sanitation programs to expect some minimal payment even from the very poor. Where cash is limited, contribution of labour or in kind might be requested. This issue is discussed hereinafter.

3.5 Community's contribution of labour and other non-cash resources to sanitation

3.5.1 Introduction

Where the ability to contribute cash is very limited, contributions in the form of labour or kind might be required from the community to make latrine acquisition more affordable to households. It also ensures that implementation of the sanitation project involves the use of construction methods and skills which are more or less familiar to the users, an approach which ensures that costly mistakes are avoided, latrines are more socially accepted and also provides the users with a basic understanding and knowledge required for the operation and maintenance of the latrine.

Non-cash contributions from the community may be in the form of:

- labour (eg. for pit digging, erection of superstructure etc);
- materials (eg. stones, bricks, sand, wood and other locally available materials);
- other contributions (such as tools, food for workers, housing for technical team etc.)

If the planners of the sanitation project assume that beneficiaries have to make a contribution in cash/kind to meet resource requirements for a project, then a social feasibility analysis should check on the assumptions and decisions on the types of arrangements which might be used to organize and channel such contributions should be reached before actual construction starts.

For instance if people are expected to dig pits for their own household latrines, the following points may need to be checked against available background information.

- will the beneficiaries know how to locate the pits and dig them to required dimension?
- who will be doing the actual work involved in the pit digging (taking into account, factors such as any absence of male heads of households and whether householders would hire others or do it themselves?
- will the beneficiaries have time available (checking with peak occupational periods)?
- how much will it cost a household to dig pit using hired labour and will costs be affordable?

- is manual labour culturally acceptable (manual labour might not be accepted in certain countries or in certain religious groups)?
- can such labour inputs be coordinated with arrival of other latrine components and the agencies contribution to building latrines (to avoid situations where adverse weather conditions could for example, cause the pit to cave in before the external assistance arrives)?

If a community input will be required for cleaning and maintenance of a public latrine, relevant points to consider will include:

- whether local leadership or local organizations exist will take an active part in encouraging and making sure that cleaning and maintenance continues;
- Whether people will be willing to contribute to the operation and maintenance even if the facilities are open to the general public (including passers-by from outside the community);
- how the actual cleaning and maintenance activities will be organized (whether a person will be paid by the community to do the work, whether it will be done on the basis of rotating responsibilities among households or any other means);
- whether there is the facility for a back-up to community efforts should any major technical problems occur;
- whether a petty cash will be available for the purchase of necessary materials and how this cash will be raised.

Answers to such questions that may arise at various stages during implementation should be settled in order to make sure that all resources required for the implementation are fully mobilized and also to ensure that the project does not overburden the community with demands for construction labour or any other required construction.

Project planners need to check on community leaders and other agencies involved in the Project to ascertain the schedules and capabilities of the communities. Consultation with local organizations and district/regional offices could also provide useful contributions that could help in decision making.

3.5.2 Factors that affect the mobilization of labour and materials from community

1. Motivation

Community participation of any kind in a sanitation project can be achieved only if motivation is so strong that sanitation becomes a priority to the users. By far, the greatest motivational issue when it comes to the contribution of labour and materials is group pressure.

Political pressure from authorities, social cost of lagging behind and fear of the reprisals from community leaders all constitute a psychological pressure on the community to implement decisions agreed on concerning mobilization of labour and materials. The desire of a household to comply with decisions taken by community leaders after consultation with the community results in considerable internal pressure to comply. Thus, even if the individual community members does not understand the decision of community leaders or even disagrees with it, it is not easy to disobey and face questions from others.

2. Timing of activities

Proper scheduling of activities in implementation ensures that resources, including community contribution of materials and labour are concentrated on critical periods and places so as to improve efficiency and better cooperation from the community. Careful timing of activities also cuts down on construction time. For example, the first latrine campaigns in Mozambique took place at the beginning of the rainy season and as a result many excavations collapsed during construction. Such an experience might affect the level of motivation of the community and would affect the willingness to contribute any required resources. Similarly, a rural sanitation campaign that coincides with harvest time or the planting season is doomed to fail since few people would have the time to be involved in latrine contribution.

Prefabrication makes it possible to accommodate the individual users timing and seasonal changes. It also ensures that the stockpiling of components or materials can be done to be used in periods of intensive construction activity.

3. Coordination

Rural sanitation projects are often very decentralized, reaching people who are often spread over large areas. Such projects therefore tend to be difficult to organize and coordinate. Lack of coordination results in differences which may affect a communities motivation and ability and willingness to contribute resources including labour and materials. For example, a failure by project organizers to provide building components/materials at the right place and at the right time may considerably discourage participation and affect the speed and quality of construction work. It is therefore, very important that in project implementation, all production and delivery schedules such as:

- the supply and transport of materials/components;
- manpower planning and development;
- construction schedule;
- inspection and supervision routines

are well planned and made known in advance to all parties involved in the construction work because coordination requires cooperation, otherwise situations might arise where much time would be wasted in waiting for each other. Steady progress of construction at each site also helps to avoid situations which discourage community's motivation and prevent idle labour or possibilities of materials disappearing or being wasted.

4 AGENCY PARTICIPATION IN RESOURCE MOBILIZATION FOR SANITATION

4.1 Some reasons for the low ranking of sanitation among agencies

Clearly, these are several factors that explain why so little is done about latrine provision in rural and low-income urban areas and why chosen strategies often fail to offer a cost-effective solution to the problem of sanitation. Some reasons that readily come to mind are:

- Sanitation is not a felt need by community as a result of lack of hygiene education;
- Sanitation projects have a lower prestige value than those for water supply and is therefore given lower priority by community and political leaders;
- Government and agency structures for sanitation coverage are not effective;
- Traditional design standards are inappropriate for community needs and results in high investment and running costs which beneficiaries cannot afford;
- Resource mobilization for sanitation is inadequate (de Graaf, M. 1989).

These factors are briefly discussed as follows:

4.1.1 Sanitation is not a felt need

It is common to hear, read and observe that most agencies involved in the sanitation sector are aware of the problems and the importance of the sector.

Government policies often stress the development of water and sanitation as a first step towards primary health care, politicians often speak out about the deplorable state of affairs when it comes to sanitation, especially in urban areas. Health authorities often voice out the dangers with unsanitary conditions and their link to possible outbreak of epidemics, donor agencies often advocate the integration of the water supply and sanitation section with other development programs. Yet, the truth is that most communities do not really care enough about sanitation to make it a critical issue in social and political life. At the household level, investments for sanitation have a low priority, sometimes lower than expenses for issues as dowry payments, education and even such frivolities as alcohol and cigarettes.

This low priority given to sanitation means that investments required for the provision of latrines simply fall beyond the capacity of many poor households. Many households do not even care enough to explore the possibility of cheaper alternatives or make efforts to qualify for subsidized sanitation.

This low priority for sanitation is not only reflected by the low expenditure on latrines, but more significantly by the low priority it is given in potential circles.

The increasing realization is that unless a community has been made aware of the dangers of unsanitary conditions and have been

convinced of the benefits of improved sanitation so as to perceive the need for an improvement in sanitation as a priority, little or nothing can be done to enhance community participation in the sector. Motivation, hygiene education and training are some of the components that should be achieved to improve the degree of participation in sanitation projects.

4.1.2 Low prestige value of sanitation

The low priority for sanitation is not only reflected by the low-level of private expenditure on latrines but also by the very low priority that is given in political circles.

Very few politicians really campaign for this issue or care enough to invest time, resources and influence to claim assistance for their constituencies in this sector. Since politicians often reflect the sense of priorities of the general population, it can be concluded that for most communities, sanitation simply does not carry much weight.

Another possible reason for the neglect of sanitation by agencies and politicians is that rural sanitation mostly involves a feature of decentralized implementation which often involve "special deals" between implementation agencies and contractors or the community.

It does not allow or provide any special glamour, credit or clout to the decision makers. The implementation of a sanitation programme can in the final analysis be described as an endless process of motivation, drudgery and small labour-intensive construction which is of little interest to politicians and government agencies. Indeed, this low priority given to sanitation is reflected in many other ways such as the apparent absence of sanitation from most health related programmes, its conspicuous absence from the list of subjects taught in educational systems, the lack of interest of the private sector, the dismal state of sanitary facilities in most public places and even in some government buildings.

The only group of people who could be really interested in this subject are of course those individuals who suffer from the consequences of bad sanitation and from the numerous diseases that are associated with it. Unfortunately, these people are often the poorest and the least educated of the population. Such people are often crippled by poverty and ignorance and without outside intervention of agencies can do little or nothing to alleviate the situation.

4.1.3 Ineffective Government Structures

Even in situations where the provision of sanitation is recognized as an important action item, the resources and methods that are adopted by governments and non-government institutions as well as external support agencies often fail to make any significant impact. In most developing countries, health authorities hardly take any practical steps towards latrine provision unless emergency situations such as natural diseases or outbreaks of some major gastro-enteric disease such as cholera has attracted public attention and political pressure. Most government water authorities do little about rural and peri-urban sanitation. Voluntary groups only act as and when funds

availability create opportunities and Government rural development groups often fail to highlight the importance of adequate sanitation.

Thus, very few government and non-government agencies have succeeded in mobilizing people's awareness and peoples resources on a significant scale and with sufficient continuity. The problem is further compounded by the lack of reliable collection and records of data on this subject, lack of effective systems of sharing of findings and results, lack of initiative in assessing efficiency and long-term impact studies of programmes in this sector.

All these factors militate against the implementation of sanitation programs on any appreciable scale. Lack of funds, lack of motivation, unrealistic targets and a static approach to the question of sanitation improvement results in inadequate delivery with the result that it is impossible to solicit any substantial contributions from beneficiaries. Sanitation programmes often display the kind of one-sidedness which has proved to be fatal towards achieving continuous coverage. Programs either focus on construction and ignore motivational activities or they concentrate on health education without ensuring adequate and sound technical follow-up. The results of all these factors are lots of incomplete latrine programmes and unused latrines which are hardly accepted by the supposed beneficiaries who were never involved in planning, design or implementation.

4.1.4 Inappropriate Technologies

From the sanitation planning point of view, one can either aim at perfection for all and strive to provide expensive waterborne sewerage systems which are very efficient from the health and environmental point of view for all the population and which most of the population cannot afford. The other option for planners is to aim at the provision of latrines with more affordable solutions, which at least would have some real chance of success. Since it is universally accepted that poor communities do not need expensive systems such as sewerage to achieve the desired health impact from improved sanitation, it is obvious that the adoption of cheaper technologies such as VIP's or pour-flush systems which will encourage the mass mobilization of people's resources is a more relevant approach than the promise of solutions using technologies that can never really be replicated.

Implementing agencies should strive to always use low-cost, affordable technologies and should be flexible in design in order to allow for social preferences, environmental constraints and to enable the mobilization of local resources. For example, in areas of high densities, efforts should be made to experiment with and propagate public latrines, agencies should try to incorporate private sectors in implementation whenever possible as this could result in a wider coverage of sanitation facilities. Cheaper design should be developed to eliminate the need for expensive components. Round latrines could be adopted to eliminate the need for expensive doors, pits could be shared between different latrines, the use of compressed earth for building blocks,

thatched roofs for latrines and other cost-reducing possibilities should be investigated.

Above all, the design for individual household latrines should be flexible enough to account for variations on different plots and to take into consideration the affordability. During the low-cost sanitation project in Botswana, shallow pits were used for all sites, although some sites had very loose soils while others were in rocky areas (UNCHS, 1986A). As a result, pits constantly caved-in in some places while in others, jackhammers had to be used to dig the pits. The use of jackhammers defeated the low-cost principles of the system and also made it difficult to replicate.

4.1.5 Lack of Resources

It is clear that even with the best cost-effective approach towards low-cost sanitation for rural and peri-urban areas, very few governments can mobilize adequate resources to provide all poor households with proper sanitation.

This calls for a change of attitude towards sanitation financing from all parties concerned if the aims of the decade are ever to be achieved.

Governments should give due attention not only to water supply but also to sanitation when budgeting. Donor agencies should refrain from giving strong priority to the water supply sector to the virtual neglect of the logical complimentary sector of latrine provision.

(Rotival, A. 1989), points out the fact that one of the main reasons why the aims of the IDWSSD could not be attained was due to the failure of the volume of international aid to increase significantly during the decade. Whereas, the World Bank estimates a total requirement for the water supply and sanitation to be US\$ 9 billion annually for sustained growth, international aid flow for the sector is currently only US\$ 3 billion a year, thus leaving the bulk of the burden to fall on hard pressed governments in the developing world.

It is therefore clear that even if financial positions and priorities of governments and donors should change to enable more support for the sanitation sector, other sources of finance will be required. The conclusion therefore is clear. That beneficiaries should contribute more towards the financing of sanitation programmes. There is a need for a partnership approach in resource mobilization involving agencies and the community the potential involvement of the private sector and other NGO's should also be investigated and harnessed wherever possible.

4.2.1 Governments role in sanitation projects and how the ranking of this role can be raised

Government allocation for the water and sanitation sector still represent the principal source of funds for the sector. Recent estimates are that without substantial increase in levels of funding by ESA's contributions from national budgets and resources mobilized by communities and from other sources within developing countries will together have to be about two-third of the total resource requirements to meet investment requirements

(Rotival, A. 1989). Government grants, subsidies and loans supplemented by external loans, credits and grants have therefore been the greatest source of funds for the sector in most countries. Most governments have increased their allocation for the sector over the decade and countries like Ethiopia, Malawi and Lesotho are already spending over 10% of their national budgets on the water supply and sanitation sector (Kalbermatten, J.M. and McGarry, M.G. 1987).

The role of the government in sanitation programmes are crucial not only because governments are the principal sources of funding for the sector but also because sanitation programmes are themselves as a result of government policies and also because governments have to provide the necessary institutional support and project staff to ensure successful implementation. Even in cases where some external support may be involved in sanitation projects, government support may still be required in the follow-up aspects of the program:

- The acquisition of building materials that are not available locally eg. (cement, wire mesh, vent pipes etc.).
- Transport for project personnel and for cartage of building materials and prefabricated components including fuel for vehicles.
- Promotion and demonstration of low-cost technologies.
- Research and development.
- Training of masons, plumbers and community members.
- Community support.
- Provision of storage facilities for components and materials.
- Planning, design and administration.
- Inspection, service and repairs.
- Evaluation and impact assessment.

4.2.2 Some suggestions for enhancing the ranking of sanitation interventions in Government budgeting

There is certainly the need for a new dynamic approach from governments towards sanitation. Governments should place equal emphasis on sanitation as with water supply and rhetoric at government level on the subject should be replaced by realistic policies that seek to establish an effective mechanism to ensure continued sanitation coverage and effective implementation of sanitation projects.

Some suggestions to help achieve this are as follows:

- i As a first step, data on coverage and the impact of sanitation facilities should be upgraded. Based on such statistics, policies should then be formulated by governments to ensure the mobilization of people awareness

and resources on a more significant scale and with sufficient continuity. Governments should also encourage more information sharing and collaboration between its agencies that are involved in sanitation and should place more emphasis on evaluation and impact assessment.

- ii Not until the poor have accepted the need for better sanitation and are fully informed of the dangers resulting from a lack of it will the awareness of the community be increased adequately to make sanitation felt need and greater cooperation of the community be achieved. Politicians and the media can play a big role in convincing governments to increase funds for this sector, realistic targets should be set and a dynamic approach should be adopted that aims at delivering effective results and soliciting substantial contributions from beneficiaries. Projects should combine construction with effective motivational activities and health education should be followed by sound technical follow-up. It is only when the community has realized that proper sanitation is an indispensable step towards improved help will they feel compelled to exert pressure on political leaders and administrators and to generate media coverage that will help increase government ranking for improved sanitation in budget allocation.
- iii Sanitation coverage could be improved and agencies and communities would better appreciate the need for improved sanitation if government policies would aim at the integration of sanitation provision with other development programs such as health cares agriculture, manufacturing and rural development.
- iv Governments can also play a bigger role in seeking financial support for sanitation programmes implemented by national agencies and by NGO's. External aid for development projects are mostly administered:
 - Either through governments - where donors simply allocate funds to needy governments and leave the disbursement of such funds to the discretion of the government;
 - Directly to ongoing projects being executed by NGO's on request.

Since the granting of funds directly to projects on requests depends on how such requests are made and how such organizations manage to convince donors, governments can play a significant part in ensuring that requests from NGO's for financial assistance are well thought out and clearly presented. An effective way of accomplishing this would be through the distribution of guidance materials which gives data and statistics to support the need for improved sanitation. Such guidance materials should stress on the how to formulate sanitation projects. how to identify and communicate with potential donors and how to write out and submit proposals for financial assistance from donors.

4.3.1 Role of External Support Agencies

External support for the sanitation sector usually come in the form of soft loans, credits and grants to governments and other NGO's.

Soft loans are given directly by donors directly to governments in reaction to requests from these countries. It may be granted in cash or in kind (but is always quantified in monetary terms) and it is the government of these countries who ultimately decide on the disbursement of such funds.

Credits and grants are often given to meet country-level needs and initiatives to governments and sometimes directly to NGO's.

The main source of external funding in the sanitation sector are:

- The World Bank and other regional banks;
- Bilateral Donors;
- UN Agencies;
- International NGO's (Kalbermatten, J.M. and McGarry, M.G. 1987).

WORLD AND REGIONAL BANKS

This group represents the biggest source of external finance for the sector. Together, the total contribution from this group constitutes about 50% of the total amount of external resources for the sector during the decade.

BILATERAL DONORS

Contributions from the industrialized countries, who mostly operate in developing countries through specialized development agencies such as CIDA, USAID, WASH, GTZ, DANIDA, DGIS, ODA, etc. also represent an important source of finance for the sector. Together these bilateral donors contribute about 37% of all external resources for the sector during the decade.

UN AGENCIES

UN agencies who are involved in the water supply and sanitation sector such as UNDP, UNICEF, UNHCR, UNCHS, WHO etc. together contributed about 7% of all external funding for the sector.

INTERNATIONAL NGO's AND PRIVATE ORGANIZATIONS

International NGO's - mostly charitable organizations such as Oxfam, Wateraid, World Vision, etc. also represent a significant source of funding for the sector. Together these agencies contributed 6% of all external funding over the decade (Kalbermatten, J.M. and McGarry, M.G. 1987).

Funds from ESA's for physical coverage mostly go into the provision of building materials, skilled labour, prefabricated components and transport (but are quantified in terms of monetary value) or may be paid in cash, leaving the procurement of these items to the user. ESA support may also go into other aspects of a sanitation project implementation such as:

- the construction of latrine production centres;
- production of latrine components;
- provision of essential components which cannot be obtained locally;

- construction of non-government sector production centres;
- provision of vehicles (for cartage of latrine components and field vehicles for personnel);
- research and development;
- training of project staff and community;
- communication support and health promotion.

4.3.2 How ESA's can help raise ranking of sanitation in agency budgeting

ESA's can contribute a great deal towards raising the ranking of sanitation is their role as

- funders of projects
- promoters of change that accelerates the development of the sector
- Coordination among Sector Agencies and ESA's (HPE/PANAMHO, 1986).

These roles are discussed as follows.

4.2.3.1 Funders or projects

1. 'Social' versus 'productive' sector

Under the present economic conditions, most developing countries are still largely oriented to investments in the productive sections such as manufacturing and agriculture, rather than to the social sector. Thus while funding for the water supply and sanitation sector can be expected to increase in the coming years, such real increase may not be large enough to meet the need for service coverage extension and improved service levels. Thus, lower cost solutions (rehabilitation, improved operation and maintenance, greater participation of beneficiaries, more efficient management) which are acceptable to the community, countries and funding agencies are needed.

ESA's can help achieve this goal by assisting in identifying and implementing alternative solutions and also taking greater interest in resource requirement and the coverage of the cost of repairing such solutions when failures occur (ibid).

2. Affordability and cost recovery

The criteria for the choice of projects financed by external agencies is increasingly based on the affordability of new installations. This makes financing particularly difficult when attempting to attend marginal populations in low-income areas and in rural communities. Cost recovery in urban areas is an accepted principle even if in practice it may not apply fully. For poor areas, partial recovery of capital and payment of operation and maintenance may be the only realistic objective to be pursued.

ESA's should therefore revise their loan conditions to bring them in line with the economic and social situation of the areas affected, For example, loans under softer terms should be made to depressed or underdeveloped areas in developing countries. For example World/Bank/IDA loans apply to relatively few countries, while depressed areas which should qualify for such loans exist in many more countries (ibid).

3. Promotion of national resources

National funds are normally used

- as counterpart funds to externally financed projects
- to build facilities that do not require external funds
- to operate and maintain ongoing and new projects
- to rehabilitate and upgrade existing services.

The mobilization of additional national resources for water and sanitation sector in many developing countries may be difficult. The lack of such funds may have a negative impact because it may delay the execution of externally funded projects and may lead to a cost increases. On the other hand, the shortage of funds to cover recurrent expenditures i.e. for operation and maintenance, may lead to a faster than normal deterioration of installations and thus, to a reduction in both the financial and socio-economic returns from the investment. It is essential that national and local resources that can be mobilized and channeled effectively by employing innovative strategies that bring costs down, such as optimizing the use of existing resources, applying appropriate technologies and incorporating community participation in the various stages of the projects.

ESA's should promote and support countries in their efforts to mobilize national resources, and complement investments when needed (ibid).

4.3.2.2 Role as promoters of change to accelerate decade development

Achievements of the 1960's and 1970' in the water supply and sanitation sector included:

- the acknowledgement that urban and rural consumers have the ability to pay and should pay for sanitation whenever possible.
- the passing of legislation assigning institutional responsibilities to water and sanitation services
- the recognition of the importance of the development of institutions and their human resources as well as other institutions.

During the IDWSSD, countries have sought to build on the achievements of the past. In developing their efforts, they have tried to emphasize the decade approaches which are:

- complementarity of water supply and sanitation
- precedence to the under-served urban and rural population
- promotion of self-reliant and self-sustained action
- socially relevant services that people can afford
- community involvement at all stages of project implementation
- the association of water supply and sanitation with relevant programs in other sectors, particularly with primary health care, health education, human resources development and the strengthening of institutional performance.

ESA's can help strengthen countries efforts by ensuring that in the projects they support, due consideration is given to these areas (ibid)

Institutional development

For sector investment to meet the objectives of improved service coverage, ESA's should provide, at the same time that they provide funding, if not before, for technical cooperation to strengthen the overall institution. Activities of ESA's should be geared more towards:

- the expansion of the absorptive capacity of sanitation organizations;
- optimizing the use of installed sanitation systems and managing more effectively and efficiently, additional funds. In many instances, the effects of these efforts could be equivalent to providing additional investment funds.

Human resources

Shortage of prepared staff in the sanitation sector is recognized on one important constraint. The concept of human resources development is intrinsic to institutional development and needs to be more fully accepted. ESA's can help in this role by integrating realistic and affordable training schemes into current and new projects and other activities.

Rehabilitation

Inadequate operation and maintenance of sanitation facilities leads to poorly functioning systems in many developing countries. Rehabilitation usually allows the country to recapture much of the installed investment at lower cost than the provision of new facilities.

Operation and maintenance therefore, should be part, both of national efforts and external finance policy. ESA's can contribute to emphasize the importance in national programs and lower and overall costs of services by helping to support operation, maintenance and rehabilitation programs (ibid).

Choice of Technology

Sometimes, technologies for sanitation provision in low-income urban and rural areas are incompatible with human, financial and management resources available and service demands.

ESA's can contribute in raising ranking of sanitation schemes by increasing support for the application of appropriate technologies and approaches in comprehensive projects up to the point where success is assured.

This effects should also include re-examination of design criteria and standards. It is not important that ESA's help the countries to carefully select equipment and technologies to avoid future problems of operation and maintenance (ibid).

Project Preparation

Lack of project preparation capacity has been identified as an important constraint which limits the flow of external funds to developing countries. Activities in this area are limited. ESA's could contribute to multiply efforts of governments agencies and NGO's to and to institutionalize the process in the organizations so that they can prepare projects for national and international support. This could be done by the distribution of suitable guidance materials to agencies in the sector (ibid).

Technical cooperation among developing countries

Technical co-operation among developing countries has been demonstrated in a few instances to be a most effective way of transferring knowledge and experience which contribute to a self-reliant development if the sanitation sector in these countries. ESA's with the knowledge and experience gained in projects in developing countries could support and intensify this process (Ibid).

Attention to urban poor and rural populations

In many countries, these priority groups of the decade targets are still widely neglected. More emphasis than in the past needs to be given to this situation, including the clarification of the role of the sector agencies and the institutionalization of those aspects that favour increased attention and participation.

ESA's should therefore take a new look at their support activities to shift the emphasis and give more attention to the poorer sections of the population. Loans, grants and other forms of support to the sector could emphasize service to those marginal groups and to include specific support activities needed (ibid).

Community Participation

Community participation is now recognized as an essential component of sanitation projects. There is therefore the need to amplify the traditional concept that labour and materials is all that is required. Community involvement in all phases of sanitation project development from initial conceptualization to project operation, maintenance, administration and future expansions needs to be applied.

ESA's should seek new ways to finance the concept and support full participation. The potential for the mobilization of local resources has not always been fully utilized (ibid).

Primary Health Care

Cooperation between health and sanitation and water supply institutions, requires additional efforts. The integration of sanitation with water supply and health is particularly important in rural and peri-urban areas where the infrastructure of these sections can be mutually supportive.

ESA's can help promote the better understanding of how primary

health care can be used to support rural and peri-urban sanitation projects (ibid).

Help to National NGO's

In most developing countries, little detailed information is available on the activities of the NGO's. Nevertheless, their input in sanitation projects, particularly in rural areas could be critical. Their role, in filling the gap in those areas where multi and bilateral funding and technical cooperation agencies may lack the flexibility to adapt and act quickly is most important.

ESA's can boost the activities of NGO's by recognizing and utilizing their potential role as project execution entities for bilateral agencies. The tapping ESA's could promote the activities of NGO's by tapping their potential as:

- project implementors;
- source of technical know-how and experience;
- promoters by health education and community participation (ibid).

4.3.2.3 Role of ESA's as Coordinator among Sector Agencies and ESA's

ESA's may be instrumental in helping to streamline activities in the sanitation field so as to avoid duplications and emphasize complementarity.

They can help in optimizing the impact of the limited resources by coordinating among themselves and with government authorities their various approaches to sector development.

4.4 Role of National NGO's in Sanitation Programmes

Many of the most successful sanitation programmes have been organized by community organizations of various kinds, religious groups, charities and neighbourhood organizations. Most of these organizations are rooted in the community and often have capacities for community mobilization which very often surpass even that of governmental organizations. Since NGO's mostly make a long term commitment and do not leave the community after completion of the Project, they are often able to contribute to the sustained success of sanitation programmes (UNCHS, 1986A) Governments could help to make this role more effective by giving them due recognition and providing logistic support which will be needed in project implementation. The use of state owned media could be granted to such organization on more liberal terms and guidance material to help in the implementation of sanitation projects could be provided for them.

As already mentioned, such guidance material could also include suggestions that will be helpful for cash raising from potential donors.

4.5 Role of the private sector and how agencies can help boost this

In some areas, the private sector plays a pr??? role in the water and sanitation sector. In the Punjab areas of Pakistan, the private sector is regarded as the largest contribution to this sector.

The role of the private sector in sanitation programmes could be in the following area:

- detailed design and consultancy services
- procurement and material delivery
- tendering and contracting for construction of latrines
- technical support to operation and maintenance of sanitation schemes
- provision of community based training services (World Banl, 1988).

Agencies could encourage private sector involvement in the delivery of sanitation infrastructure by:

- the introduction of improved design in on-site latrines
- the training of masons and plumbers in marketing, business management and low-cost technology delivery
- provision of widespread demonstration of sanitation technologies in rural areas
- by promotional campaigns through the public media and existing rural extension services and local government.
- by providing rural credit schemes for the lower income groups to enable them afford basic sanitation infrastructure.

4.6 Some suggestions for improving the Effectiveness of Agency Participation in Provision of Latrines for rural and low-income urban areas

- i Agencies (governments, NGO's and ESA's) should devote more resources and effort towards the assessments of activities in the sanitation sector. Their course of action should aim at upgrading data and statistics on the subject with the aim of facilitating honest sharing of ideas and information. A good starting point could be for agencies in the field to gather more information on who is doing what - and to what effect.
- ii To ensure the effectiveness of community-based sanitation schemes, agencies should take into account, the 3 essential components during planning and implementation: - the involvement of beneficiaries from beginning of the Project to the end, the use of cheap and replicable technology and health education that aims at behavioural change. Adequate fund allocation should be made for the resources needed for promoting and ensuring the use and desired impact of sanitation facilities.
- iii The defined impact of sanitation schemes would be realized only if and when the communities involved have realized that proper sanitation is an indispensable step towards improved

health. Agencies should therefore aim and plan towards promoting this awareness.

Governments should press it upon political leaders to help propagate these basic facts about the importance of improved sanitation towards ensuring improved sanitation and improved health to beneficiaries. It is only when political leaders and people in authority have expressed this priority that rural sanitation will become a serious, shared responsibility between people and their governments/agencies.

- iv Considering the evident lack of financial resources in most developing countries, it is becoming more imperative that more emphasis should be placed on the mobilization of resources outside of the government/agency context. The contribution of the community both in cash and in kind is increasingly becoming recognized as a crucial factor in achieving increased coverage in the sector. It is also important that the involvement of the private sector should be encouraged wherever possible. Governments and agencies should see themselves more as facilitators and moderators and less as the provider of a mass-based sanitation service.
- v Governments and agencies should refrain from adopting standard solutions which have been imported from elsewhere or which has been adopted by some authority. The agency's approach should be a flexible one that seeks to achieve effective solutions that are easily replicable on a large scale. Emphasis should shift from the preaching of policies and imposition of standards to a more flexible approach that involves open-minded experimentation and drawing of useful lessons.

CHAPTER 5

5. THE PARTNERSHIP APPROACH TO RESOURCE MOBILIZATION IN LOW-COST SANITATION

5.1 Introduction

Historically, the principal source of funds for the sanitation sector have been grants, subsidies and loans from government and external agencies. The potential role of the beneficiaries in the actual provision had been largely untapped and implementing agencies have been looked upon by the community as the mass providers of sanitation services to the community.

Recent trends, however, have shown that even with the most cost-effective approaches, external agencies and governments budgets for the sanitation field alone can never be adequate to raise all the resources required to ensure the sustainability and expansion of individual household latrines and other sanitation facilities to meet the aims of the decade. There is the increasing realization that governments have to find ways and means of increasing their own resource base by recognizing and adopting new strategies which facilitate resource generation for sanitation projects.

For rural/peri-urban sanitation projects in developing countries, most external support agencies and recipient governments now realize, accept and require that communities should assume ownership and greater responsibilities for the construction, management, operation and maintenance of their individual household latrines (WHP/CWS, 1989).

The need to promote partnership approach is further supported by recent evidence which shows that communities willingness to contribute to the provision of household latrines could be far greater than previously assumed. Other reasons which justify this partnership approach include:

- Partnership approach to latrine provision leads to an increased appreciation of the value of sanitation and help make it more acceptable;
- Partnership approach helps ensure that resource requirements for the viability and continuity of services are more easily met;
- Partnership approach ensures the coverage of replacement/extension/quality improvement needs;
- It promotes the health education and consciousness of each household;
- In the light of inadequate resources from agencies, partnership approach seems plausible since limited funds from agencies can be used for a wider coverage.

The sustainability and expansion of low-cost sanitation should therefore be based on a balanced contribution of the required resources (such as cash, equipment, skill, time and labor) from both agencies and communities.

Agency inputs may include direct project expenditures for materials, equipment and labor and indirectly in the form of costs involved in agency operation.

A community's contribution may be directly in terms of cash payments as well as in-kind contributions of materials, labor and resources and indirectly in the form of general administrative and social costs.

However, even in cases where the need for this partnership approach is recognized and adopted, inadequate planning very often results in gaps in the provision and execution of responsibilities, commitments and resources between agencies and the community/household. As a result, sustainable, replicable sanitation projects are not always achieved. It is therefore very important that community members (especially women) are actively involved in the decision-making process; ... that they themselves discuss options, implied service levels and costs, levels of cash and in-kind commitments they are willing to bear, sources of cash and in-kind inputs, etc., and then select the technology best suited to their own particular situation. This type of decision making process, can lead to more realistic projects and lower investment and operational phase costs.

The most important issues that arise from this partnership approach concept to resource coverage are:

- (i) Resource requirements for sanitation projects (such as materials, labor, time, skill and cash) which are required for initial investments, recurrent costs, and promotional activities to enhance use/impact.
- (ii) Resource coverage (based on a balanced contribution from agency and community to meet resource requirements).
- (iii) Financing strategies to ensure cost containment (from agencies point of view) and
- (iv) Cash raising and cost recovery (Within/from the community to meet financial obligations to the project and to agencies).

Issues (i) and (ii) have already been discussed in earlier chapters (2, 3, and 4). The rest of this chapter therefore discusses issues (iii) and (iv).

5.2 Financing strategies for implementation of sanitation projects in low-income areas

Although some rural/peri-urban households enjoy incomes that are sufficient in terms of making a latrine acquisition affordable without any outside financial assistance, an even greater proportion would usually find it difficult to acquire a latrine without some form of agency intervention.

The problem of inadequate resources from the community is further compounded by the fact that most governments and agencies have many demands on scarce resources and would find it unlikely to meet any significant level of financial aid from its normal general fund resources.

This section therefore reviews the various financing options that seem plausible for meeting the identified needs of households which require external financial assistance to meet resource requirements for latrine acquisition.

The implication of each option in terms of subsidy levels, donor assistance and effectiveness in meeting objectives are also reviewed as a basis for recommending financial assistance packages for consideration by governments and other donor organizations.

5.2 General issues on financing

5.2.1 Credits

Because of the level and the irregularity of incomes in rural and peri-urban areas of developing countries, most households do not have any savings, whether formal or informal in nature and hence often have problems of obtaining loans from banks for purposes of latrine construction. In addition, residents have to face such problems as the lack of information about credit programmes, low and irregular incomes, lack of collateral, complicated loan application procedures, high interest rates and lack of legal standing when applying for loans (UNCHS, 1986B).

Project implementors can help households in rural and peri-urban areas overcome these problems by granting credits for latrine construction. This can be done in the following ways:

- (i) By the establishment of project loan funds, tailored to the needs of rural and peri-urban households with low interest rates, simplified application procedures, female staff to tackle problems of women-headed households etc.
- (ii) Project implementors can encourage and stimulate the development of savings and credit co-operation among rural and peri-urban households (which can also serve as a blueprint for later community initiatives such as income generating projects) (ibid).

5.2.2 Loans

Beneficiaries in a latrine project may in some cases be offered a material loan as part of the financial arrangement in the form of building materials (though this will be qualified in monetary terms). In other areas building materials may be offered in cash, leaving the procurement of the required materials to the householder, such loans may also cover the cost of skilled labor and other services.

Rural Banks/Housing banks/Cooperative banks where they exist are very efficient for administering loans.

They usually have an efficient system for cost recovery whereas any new arrangement by another group would require a new organization of payment collectors. Banks, however, usually tie

the loan agreement to land ownership and other fixed assets. This poses a problem in peri-urban areas where land ownership is usually undefined (UNCHS, 1986A).

It is important that if the implementing agencies wishes to make loans available to low-income areas for latrine provision, the following issues are considered.

- That information on the availability of loans to deserving applicants is accessible to the community;
- That loan application procedures can be adapted to the literacy levels in the settlement and that conditions as the granting and recovery of loans are clearly understood by the beneficiaries;
- That realistic repayment schedules on loans for latrines should be worked out in conjunction with other aspects of cost recovery.
- That project staff members have an informed idea about the members of the community who are most in need of financial assistance (UNCHS, 1986B).

5.2.3 Grants

The most basic type of grant offer involves the donor or implementing agency funding a fixed proportion of costs of the sanitation facility while the beneficiaries meet the rest of the resource requirements.

A grant may be issued across-the-board in which case, all beneficiaries then share equally in the benefits provided and low emphasis is placed on cost recovery.

However, it is more common for the donor agency to seek ways of applying the grant more effectively to cover a proportion of the latrine costs for the smaller segment of households which clearly require assistance.

This usually involves the application of some form of means test to determine those poorest households.

Some possible options for means-testing are described later in this chapter.

5.2.4 Subsidies

Although the principle of lost recovery in sanitation projects can be applied to low-income areas, it may be necessary to consider some form of subsidies or cross-subsidies in enhancing the acceptance of sanitation projects.

The policy of subsidy giving should be to ensure affordability of the scheme and thereby make the project attractive and readily acceptable. The justification for subsidies is the growing realization that private latrines are not necessarily only of private concern in a community, but that they are also a community responsibility, for, unless all households are able to own and properly use a satisfactory latrine, those who possess them will still continue to be exposed to the risk of excretal infections created by those that do not possess latrines. This would undermine the effectiveness of their investments and frustrate the realization of the expected health benefits from the investment. It is therefore worthwhile to incur the cost of subsidies to ensure that total coverage is achieved for the common good.

5.2.4.1 Level of subsidy

Since the rationale for a subsidy is to make it possible to extend the sanitation project to all, it follows that it is the capability of the poor rural folks that should serve as a guide in determining the level of subsidy.

As a general principle, it is recommended that subsidies should be applied only to materials that are not locally available such as fly screen, cement and squatting slabs.

Sometimes, the implementing agencies might conclude that it is administratively cheaper and simpler to supply externally procured materials free of charge (at 100% subsidy) to rural households. However, to ensure social justice and to make it easier to extend similar sanitation services to non-project villages without upheavals, the principle of making some cash payments for such materials should be established. It is important that as one condition for the supply of such materials, the implementing agencies should determine an appropriate amount that must be paid by each household for the externally procured materials. The funds realized could be set aside and eventually recycled back to the village to finance more of such sanitation schemes (Wright, A.M. 1983).

Thus, subsidies, even where they are applied must be minimized and not relied upon as a tool to help propagate new technologies lest they set precedents and raise expectation which cannot be met in the long term.

5.2.4.2 Importance of means testing

To achieve a cost reduction of the latrine facility of sufficient magnitude to assist the lower-income households in acquiring a latrine, it might be necessary to provide a grant of say 30%-50%, possibly more. To provide an across-the-board grant of such magnitude would require financial resources which most governments and donor funding agencies would find impossible to meet. It is therefore clear that such grants should be more effectively applied to cover a proportion of latrine costs for the smaller segment of households which clearly require assistance. This determination would usually involve the application of a "means test" and some additional costs in administration but would still result in a more efficient use of grant funding resources (Baker, J.S. 1986).

The process of establishing a grant program for only those households that qualify through demonstrated need would require the establishment of criteria or guidelines concerning income levels and assets that households can possess, above which they would be ruled ineligible for a grant. The administration of such policies can however, be somewhat arbitrary, creating many opportunities for disputes and claims of unfair treatment on one hand or favoritism on the other and can also bring about a potential for corruption.

However, given the situation where any grant funding then is made available is likely to be small, the establishment of grant policies requiring households to demonstrate need seems most practical and appropriate.

There could be three approaches for determining the affordability and hence the level of subsidy required for a household to conveniently acquire a latrine. These are:

- (a) income tax liability assessment;
- (b) assessed value of the property and assets of the household;
- (c) access to the public utilities in the household (Roy, A.K. 1984).

Income-tax assessment

It is not very easy to assess the income level of a household in view of the fact that majority of households in peri-urban and rural areas are in non-salaried jobs and so the income tax ability and household income can only be estimated by guesswork.

Property value

This methods is also not a very reliable way of accessing affordable due to similar reasons given under income tax assessment. Houses are not assessed at proper intervals and they may be over or under assessed.

Access to public utilities in the household

The access to the public utilities has been a basis for determine the affordability of a household and has been widely applied in India. Access to the public utilities (water connection, electricity connection and dry latrines) as existing in the premises are used as the economic indication of the household. Therefore, a grant or loan to an individual household could be based on a number of public utilities the particular household enjoys. In India the various state governments agreed to the following grant and loan components:

- (i) Households having 2 or all 3 of the utilities - 100% loan (no subsidy)
- (ii) Households having only 1 out of the 3 utilities - 50% loan + 50% grant
- (iii) Households having one of the 3 utilities - 25% loan + 75% grant (ibid)

The Indian study also revealed that even when a household had all the public utilities, payment of the entire cost of sanitation in one lot was unaffordable by the majority of the people. The grants of long-term soft loans however did contribute to a wider acceptance of the program and repayment of monthly installment was limited to a maximum of 1.5% of the monthly income. This arrangement is mostly applicable in peri-urban areas. In rural areas where household connections of piped water supply and electricity are mostly absent, a means test should be formulated based on an assessment of income levels and non-financial assets of the household. This subject is discussed more fully in chapter 3 of this report.

5.3 Subsidy options and their applications

Six main options for administering subsidies can be identified for providing subsidies to beneficiaries of a sanitation project. Although not all of these have the viability for implementation in rural and low-income urban areas and though there is some overlap among some of them, each is deemed to possess enough merit to warrant separate discussions and consideration. These six options are:

- options involving credit
- capital grants
- savings incentives
- Barter agreements
- cross subsidization
- enhancement of 'lay-by' (Baker, J.S. 1986)

A discussion of these options is as follows.

5.3.1 Options involving credit

Two principal options are available for using credit facilities in financing latrines. These are:

- (i) the insurance of loans through credit unions
- (ii) the extension of 'advances' to households through government district-based facilities.

The extension of facilities for financing of latrines through normal commercial avenues is not considered appropriate for discussion because of the following reasons:

- interest rates are too high to be affordable by low-income communities;
- the loans involved in sanitation schemes per household are relatively small amounts of money;
- these are problems with determining the credit-worthiness of the rural folks and the urban poor who are most often in need of credit.

The 2 viable options are discussed in detail as follows:

5.3.1.1 Loans through credit unions

In this scheme, funds provided by the implementing agency (govt/ESA) are channeled through cooperative or credit unions to form a revolving fund for the financing of latrines. These funds are usually made available for input into latrine provision only and are usually supposed to go into the financing of materials and services which are approved under the rural sanitation project.

A study of the rural sanitation project in Lesotho (Baker, J.S. 1986) gives a good picture of how such a credit union operates.

The revolving fund for a village in the project areas was funded with M 5000 provided by the UNICEF to the local cooperative credit group. The fund was operated under the following rules.

- Credit union members could borrow from the credit union at a normal interest rate of 1% per month on the loan balance that is outstanding.
- Such cooperative/credit union is established under a legislation which among other things establishes the service areas for each co-operative unions as being within a 10-mile radius.
- To be eligible for a loan, a borrower must be a shareholder/depositor in the credit union which requires that the borrower must have a deposit of no less than 50% of the amount borrowed.
- Credit union practices of generally limiting credit to short term loans (12-18 months) apply for loans for latrine financing.
- The most common method of providing security is through co-signing and arrangements could be made whereby the locally authorized rural sanitation project representation could co-sign where such a procedure was warranted by the reputation of the borrower.

Applicability

This method of financing is on the whole, helpful for those who would use such loans primarily for convenience. However, its application lacks the potential for meeting the requirements of rural sanitation programs because:

- its application involves difficulties in meeting the needs of the less credit worthy and
- limitation in the geographical coverage of credit unions would be a handicap towards achieving a wide coverage.

5.3.1.2 Capital grants administered through government district based facilities

This second option of providing credit is one involving the extension of interest free advances to households having no access to credit unions and also to those who have a greater limitation in terms of cash income. This system of advancing needed funds could operate along the following lines:

- Households could request latrine financing through the village or ward leader/chief.
- If request for financial assistance is approved, advances could be extended in the form of coupons or vouchers which could be used by households only for the purpose of acquiring latrine components and the services of a qualified latrine builder.
- Materials and components could be obtained as the submission of vouches/coupons to designated suppliers and builders. These suppliers and builders could then submit collected coupons to a designated sub-accountant or representative for payment in cash.
- The repayment of loans would be made to the chiefs or village leader or directly to a designated sub-accountant by the households according to an agreed schedule which may be designed to accommodate the particular cash flow situation for each household. These terms would be stipulated in a contract which would be legally binding on

the household. Interest or a small commission may be collected for administrative costs and to provide an allowance for covering uncollectable accounts.

- The enforcement of the contract is the responsibility of the ward or village leader/chief with administrative support from the project sub-accountants and village development committees.
- Initial capital (seed money) for such a revolving fund could be sought from donor agencies with support from the government where necessary. Because these funds are used merely as credit advances, the funding process is nearly self sustaining as the flow of repayments increases to the level of funds being advanced for new latrines (ibid).

5.3.1.3 Choosing which credit facility to adopt for a household

Once a household has made the decision to acquire a latrine and if funds are not on hand to begin the construction process, an application for financial assistance could be prepared. If there is a credit union member within the household, or one who is able to become a member, it is likely that a loan would be sought through the credit union mechanism. If not, an application for an advance would be submitted through the village and ward leader for consideration and upon approval, insurance of the vouchers by the sub-accountant of the district involved. Eligible households could also apply for a grant from the implementing agency.

Generally, this second method of granting credits is the most practicable for helping lower-income households to acquire loans or advances for latrines. Village level health workers and other staff involved in project administration could assist households in preparing household budgets which would show how adequate funds can be generated over an appropriate period of time for repayment of loans and advances. Together, these 2 methods for providing credit should meet a significant portion of the need for financial assistance in implementing a rural sanitation project (ibid).

5.3.2 Subsidy option No.2 - CAPITAL GRANTS

This is the second option for provision of subsidies for latrine construction. The most basic grant oriented subsidy is one that involves the funding of a fixed proportion of the cost of either the facilities and/or the services. All beneficiaries then share equally in the benefit provided regardless of need and with less emphasis being placed on cost recovery. An everyday example occurs in cases of mass immunization, where a government might decide that it is more important to provide maximum coverage rather than to gain some cost recovery and risk achieving a lower coverage of population immunized.

To achieve a cost reduction of sufficient magnitude to assist the owner-income households in acquiring a latrine, it might be necessary to provide a grant of say 30-50%, possibly more. To provide an across-the-board grant of such magnitude would require financial resources which most governments and/or donor funding agencies would find impossible to meet. It is therefore

clear that such grants should be more effectively applied to cover a proportion of the latrine costs for the smaller segment of households which clearly require assistance. this determination would usually involve the application of a 'means test' and some additional costs in administration but would still result in a more efficient use of grant funding resources, if available.

This process of establishing a grant program for only those households that qualify through demonstrated need would require the establishment of criteria or guidelines concerning income levels and assets that households can possess, above which they would be ruled ineligible for a grant. The administration of such policies can however become somewhat arbitrary, creating many opportunities for disputes and claims of unfair treatment on the one hand or favourism on the other and can bring about a potential for corruption.

However, given the situation where any grant funding that is made available is likely to be small, the establishment of grant policies requiring households to demonstrate need seems most practical and appropriate (ibid).

5.3.3 Subsidy option 3 -SAVINGS INCENTIVES

This financing option also provides a practical way for a government to provide a subsidy, in this case the benefit is provided only to those households which establish a savings account at an approved facility and accumulate a stipulated amount - say 50% of the cost of a latrine over a period of time, perhaps 12-18 months. This saving's account could be established in a credit/cooperative union, a bank or in any approved government facility. The grant amount is withheld until the savings of the household have accrued to the stipulated amount. The co-signature of a designated rural sanitation officer could be made a requirement for the withdrawal of funds, thereby making it less convenient to withdraw funds. Such a procedure will provide a good way of curbing 'dropouts'.

It might be important to again consider the question of determining whether a household really needs the grant to complete a latrine. It might be necessary to establish a means test to avoid having large numbers of households choosing this financing option to gain the benefit of the grant even when household incomes are such that grant assistance is unnecessary. It would seem preferable to have at least a modified means test in this case.

The savings/grant approach might be the most appropriate for those households which have a cash flow situation which would require more than say, 12 months to repay a loan in advance. Thus, the disincentive to those households which can afford to finance a latrine on their own would be having to wait up to 12 months or longer and the 'means test would be limited to an evaluation of cash flow for the household involved. This option has an added advantage in that the flow of grants funding lags significantly and allows ample time for governments to manage its limited grant funds (ibid).

5.3.4 Option 4 - BARTER AGREEMENTS

There are often, a significant amount of under utilized labor and physical resources among rural households. In the application of a 'means test', one might discover a number of opportunities for converting such assets into cash or directly into latrine facilities on a bartering basis. Barter is well understood and commonly practiced by individuals and government (e.g. food for work programs are quite common in most rural areas and could be potentially useful to the rural sanitation programs in a number of circumstances). When motivated to acquire a latrine for example, some households may well use bartering practices even without the intervention of the project. In other cases, the facilitative aspects of project administration may help households to identify ways of using non-cash resources in acquiring a latrine.

The bartering process offer only limited opportunities to government for implementing a subsidy. The most likely opportunity would be in establishing premium values on bartered services or goods and government would most likely have to become a participant, at least as an intermediary in the process. While bartering appears useful as an optional method of financing in some instances, it does not appear to offer much potential for providing financial assistance through subsidies (ibid).

5.3.5 Cross-subsidization (option 5)

This is a practice widely employed in financing water supply systems, wherein water consumption at quantities deemed in excess of the amounts required to meet basic health and sanitation requirements is priced at unit charges in excess of cost and consumption quantities at or below the essential minimum are priced below cost. The objective is to provide lower-income households with basic services at prices they can afford. Within the rural sanitation context however, it is not a straightforward matter. None of the technologies mostly applied in rural communities can be considered excessive and it would be necessary for governments to become the sole sales agent for those facilities upon which a premium price is to be placed. Government would then keep the excess funds and apply them as grants to be awarded on the basis of need to lower-income households.

This option has conceptual weaknesses, serious practical limitations in terms of the extent to which control of sales of certain items could be maintained, and a highly unpredictable revenue potential. Although the concept should be kept in mind in the event that a workable opportunity should arise, it is not very pragmatic when dealing with rural sanitation (ibid).

5.3.6 Enhancement of 'lay-by' (option 6)

This option would attempt to provide financing incentives in connection with a method traditionally employed by poor communities in pursuing a large and costly project. The 'lay-by' approach involves acquiring materials and/or services in the quantities that can be paid for at any given time. Thus, a house may be built in increments over a period of several years, with the materials for such increments acquired and placed as

available funds permit. This is another instance whereby, some households may choose to acquire a latrine without any government sponsored financing assistance. If some grant funds are available they could be used in a manner such that the grant amount is made available at the last increment to be acquired. The household would have demonstrated its commitment to acquiring the latrine by putting up all of the required matching funds, evidenced by receipt and materials in place or at least stored at the site. As with the savings incentive option, the grant amount is not required until some time after the decision is made to award it. This option should be of some value in managing limited grant funds, if such can be made available (ibid).

5.3.7 Summary

A summary of the six options that have been discussed are shown as attached hereinafter.

Though the table is specifically based on a situation in the rural sanitation scheme in Botswana, it presents a general trend which should be applicable in most developing countries.

TABLE 8. SUMMARY OF FINANCING OPTIONS

<u>Financing Options</u>	<u>Five-Year Capital Funding Required</u>	<u>Incremental Staff Required</u>	<u>Potential for Donor Assistance</u>	<u>Overall Effectiveness, Advantages and Disadvantages</u>
<p><u>Credit Based</u> - Two subsidized options:</p> <p>a. <u>Credit Union Managed</u> - Zero interest loans to credit unions; reloaned at 12% interest</p> <p>b. <u>Government Managed</u> - Zero interest advances (possibly a small commission) to households through village/Ward Chiefs and sub accountancies. Village development Committee oversight.</p>	<p>a. For credit unions - M 490,000</p> <p>b. For govt. managed - M 1,290,000</p> <p>Total = M 1,780,000</p> <p>Average total per district per year = M 36,000</p>	<p>a. None</p> <p>b. None anticipated</p>	<p>Reasonable potential both cases.</p> <p>a. Initial amount (M 5,000) in Pilot Project provided by UNICEF</p> <p>b. Tentative funding for first 3 districts being considered by ODA at comparable funding level</p>	<p>Provides a subsidy in terms of below-market interest, yet is consistent with self-reliance principles. Capital infusion greatly reduced after initial stages because of regenerating features. Some households may be excluded however due to cash limitations.</p>
<p><u>Capital Grants</u> - Two fundamental approaches:</p> <p>a. <u>Overall Program Grants (50%)</u> to reduce costs equally for all households.</p> <p>b. <u>Grants (50% to Qualified Households only (15%))</u> to reduce capital costs for lower income households that can demonstrate need.</p>	<p>a. Overall - M 10,000,000</p> <p>b. Qualified households only M 1,582,000</p>	<p>a. None</p> <p>b. Additional administration to be absorbed within RDP staff. Any additional clerical staff assumed negligible</p>	<p>Donor resistance to funding grants on a long-term basis can be expected.</p>	<p>Subsidy provided as overall capital grants is the simplest but least effective use of capital. If limited to only those qualifying in terms of need, however, the fund utilization is more appropriate. It is somewhat questionable, however, whether or not the lower income households would possess the 50% matching funds.</p>
<p><u>Savings Incentives</u> Involves features of options 1 & 2 above. A grant would be made only to households which successfully save a specified amount (say 50% of latrine cost) in an approved account. This could be managed by a credit union, bank or government. It should be limited to qualified low income households.</p>	<p>M 1,050,000 (Note: same as 2(b) above with one year lag)</p>	<p>Same as 2(b) above</p>	<p>Donor resistance to funding grants on a long-term basis may be lessened by the thrift/self-reliant features.</p>	<p>Economically sound approach, encouraging thrift and limited the grant funding to only those making a demonstration commitment. Accommodates the likely need of households for some time to raise the 50% matching amount.</p>
<p><u>Barter</u> - An option for households having resources available in terms of labour or goods, but lacking in cash. Government attempts to facilitate this process by matching resources to needs.</p>	<p>None</p>	<p>None</p>	<p>Not applicable</p>	<p>This is an established method for acquiring goods and services in rural Lesotho. It is, however, highly dependent upon the specific circumstances in each village. VHAs, HAs, RDAs & TAs need to be alert to all opportunities to facilitate barter for households with limited cash and incomes.</p>
<p><u>Cross-Subsidization</u> - Widely practiced in financing water supply projects and operations. This approach would require that some households pay a premium for latrine facilities to cover the discounting of latrine costs to others (low income households). It is not clear how this could be implemented as a practical and predictable funding source for the RSP.</p>	<p>Not applicable</p>	<p>None</p>	<p>Not applicable</p>	<p>Appears to lack applicability to the RSP.</p>
<p><u>Enhances Law-By</u> - Similar to the savings incentives approach, this would provide an enhanced version of a traditional financing approach. In effect, this allows the work to proceed incrementally, with the subsidy being provided for the last 50% of the incremental purchases.</p>	<p>M 1,050,000 (Note: same as 2(b) with one year lag)</p>	<p>Same as 2(b)</p>	<p>(Same as 3.)</p>	<p>(Same as 3.)</p>

5.4 Special approaches to financing of low-cost sanitation

Various financing techniques and approaches have been employed by various countries with varying degrees of success. A few that have attracted particular attention are:

- Project packaging
- Revolving funds

5.4.1 Project Packaging

Countries which carry out the implementation of sanitation projects in several cities or in a large number of rural communities can find it advantageous to deal with this as one project rather than using a piecemeal approach.

There are a number of ways this can be done but the most important requirement in all cases is the availability of a sufficiently capable and numerous staff. Financial calculations for the total project can be based on a sufficiently accurate survey or on preliminary plans covering the first year's construction schedule in the various places involved. Sufficiently accurate cost estimates should be provided, particularly if the plan is flexible with regard to the number of places to be served or the extent of the distribution systems to be completed in the first stage of the work. Projects of this type have been approved for financing in a number of countries including Brazil, Chile, Colombia and Mexico (Shipman, H. 1981).

5.4.2 Revolving Funds

Revolving funds have been used in many developing countries for financing projects in the water and sanitation sector. Such financing is provided in Brazil where support of state water and sanitation programs is functional as a mammoth national revolving fund.

Many multilateral banks have funds for lending to developing countries on concessionary terms which permits countries to repay at very low interest rates over a long time, usually fifty years. These loans are made to governments, which in turn pass the funds on to borrowers such as rural water and sanitation agencies at something approximating conventional rates of interest and repayment periods the Governments repays the loan, usually beginning after 10 years and at lower interest rates than those charged to the Project agency. Repayments to the agency by beneficiaries are then used to keep the revolving fund running. At the same time, however, the agency has to assume the obligations of repaying the loan to the multilateral bank as it becomes due.

In most rural areas, revolving funds are operated on co-operative basis. The operation of such a cooperative revolving fund, has been described earlier in sections 5.3.1.1 and 5.3.1.2 of this report.

Some Major Problems with revolving funds

A major problem with most revolving funds is how to maintain their value in the face of inflation.

This problem is further compounded by the need to provide loans from these funds at low rates despite the high inflationary trends in most developing countries.

Another major problem relates to the funds inability in most cases to cover foreign exchange requirements. In instances where a foreign loan is to be channeled through a revolving fund to help finance local projects, the communities involved usually should repay the amounts borrowed to the fund in local currency. and the government should provide foreign exchange for the repayment of loans. However, if loans are made entirely in local currency, obtaining the foreign exchange needed to import equipment can pose a major problem (ibid).

5.5 Issues on cost recovery of latrine costs

Cost recovery is one of the most difficult components of low-income sanitation projects. The repayment of loans and credits for building materials, skilled labor and services often commits beneficiaries for many years.

Some areas of cost recovery that are of interest to implementing agencies include:

- The ability and willingness to pay;
- The methods of revenue collection;
- Cost recovery of costs that do not go directly into construction;
- Cost recovery (and methods of financing) for the communities poorest who cannot afford latrines, and
- How to deal with defaulters

These issues are briefly discussed as follows:

5.5.1 The ability and willingness to pay

Sources, levels and regularity of incomes may vary considerably in low-income peri-urban and rural areas and where project authorities base their determination of the 'affordable' cost recovery payments on the average household earnings for the community as a whole, many households may be seriously disadvantaged.

For example, women-headed households may find it difficult to pay monthly fees since women mostly work in the informal sector. The same applies to farmers who rely on seasonal income from farm produce to pay for latrine costs. If the project authorities are not well informed about the economic characteristics of subgroups in the target community, the charges may discriminate against the neediest among them.

The willingness to pay is also a vital ingredient for the successful cost recovery of initial investments and this is affected by several factors. Generally, it is accepted that women are known to be more responsive to project staff and more willing to explain the reasons for defaulting. Some factors which affect the willingness to pay are the affordability, level of motivation (including group pressure), education and level of training. Some suggestion that could improve the communities ability and willingness to pay are as follows.

(i) Latrine charges

Latrine charges should be decided after project authorities have carried out extensive surveys of the economic conditions of the projects participants before calculating the feasible repayment terms. Where possible, the length of the cost recovery period should be extended.

(ii) Repayment terms

Project authorities should device repayment terms adjusted to the specific characteristics of the different subgroups within the community (for example as women mainly work in the informal sector and since their incomes are more irregular and less than those of men-wage workers, women headed households should not be expected to pay fixed monthly charges).

- Negative amortization

In areas where it can be expected that income of households will grow over a time period (e.g. new townships or settlements), the application of negative amortization schemes could help boost the ability of householders to pay for sanitation. Under this system, cost recovery systems are arranged such that in the early stages, households pay a lower interest rate on loans. The rate of interest is then allowed to increase gradually over a time until the prevailing market rate has been reached (UNCHS, 1986B).

- Boosting of the communities ability to raise cash

The creation of employment opportunities for rural households could be linked directly to the issue of repayment for example, a percentage of the average monthly profit of a cooperative such as a bakery or a grain mill could be used to repay the latrine charges of the group of beneficiaries involved in the enterprise. Another way of meeting cash requirements is to help in the development of informal savings networks within the community by community leaders at all levels.

In newly built houses, the granting of a grace period of non-payment could help enable residents to consolidate their investments and create income-earning opportunities within the households:

Improving the willingness to pay

The problem of unwillingness to pay must be tackled on two fronts:

- First, households must be convinced of their responsibility and the central role that repayments of loans for latrine acquisition plays in improving sustainability and expansion of coverage during educational and motivational activities. If default is apparent among certain households for no apparent reasons, pressure should be brought upon the men rather than their dependents as budgeting is more likely to be controlled by male needs.
- Secondly, project staff should involve women more actively in project planning, in order that the project meets the

needs and priorities of the main uses. A complete discussion of the factors that affect the ability and willingness to pay and the ways by which they can be improved are discussed more fully in chapter 3.

5.5.2 Collection of payments

There are two basic methods by which repayments may be organized:

- Either each individual household pays directly to the authorities/appointed representation or the charges are collected within the community and then handed over to the officials. Both these methods have their limitations:

In some communities daily routines makes it difficult for households to make direct payments to authorities due to lack of time. On the other hand, collection of payments by the community may create the situation where tremendous social pressure is often brought to bear on households which cannot pay the stipulated amount on time and women-headed households in particular may suffer severe embarrassment when their default in contribution is exposed to neighbors, especially of the collectors are men.

Collection of repayments for latrine costs should be undertaken only by authorized employees of the local council or the village sanitation committee. During the self-help sanitation improvement project in Botswana, collection of repayments was done by revenue officers. who were employees of the district council.

In areas not covered by revenue collectors, court clerks and family welfare educators were given the responsibility. In determining who is the best for revenue collection, it should be borne in mind that whoever is appointed to perform this task should be familiar with, and to, the village residents in order to undertake the task more effectively. The more time he/she spends in the village, the more likely it is that residents will be forthcoming with their payments. While one might assume that revenue officers would be most suited to the task, the Botswana experience (Basaako K. et al, 1983) showed that they were not always the best choice. As there were only few of them to cover a large areas, they spent much less time in any given location and this affected volume of revenue collection.

The Botswana experience showed that family welfare educators were the best collectors in the areas they were assigned to in rural areas, collection can be done on house-to-house basis preferably by women. Collection of revenue can also be done on periodic meetings of the community or at offices or homes of persons appointed to undertake the task of revenue collection.

Revenue collection may also be done through banks (housing banks/rural banks/cooperative banks, etc.) Loans recovery done through a bank has the advantage that a proper system of cost recovery would already be in operation whereas other arrangements would require a new organization of payment collection.

Experience from Pakistan has shown that bank involvement could yield high levels of loan recovery. A system that operated in urban areas in Pakistan involved the bank preparing and issuing

passbooks to the householders in which pages are reserved for each payment. On paying of an installment, the payers passbook is stamped and signed. Monthly compilations of payments are then sent to the implementation agency (BKH, 1989).

5.5.3 Cost recovery of non-construction costs

The decisions taken on any cost recovery scheme must be practical and should relate to the consumers ability and willingness to pay and the possible steps of action which can be taken in case of a default. In this context it is often argued that recovery of costs other than construction costs of the onsite latrine will not be reasonable because of the following reasons.

1. In most low-income areas, there is no legislation or instrument which requires the owner of the compound to forcibly install latrines. The individual rights to privacy are often carefully guarded and such a legislation, should it exist, would be very difficult to enact and almost impossible to enforce due to financial constraints in low income communities among other things. In most cases, householders retain the option of providing sanitation facilities and the sanitation implementing agency really has no monopoly. Under these circumstances, the householder would object to paying educational, marketing, delivery charges which would add up to make the overall cost of latrine acquisition substantially more.
2. the construction costs of most latrines are in some cases more than the householders can be able to pay even if they were willing to. This makes a subsidy for non-construction costs imperative if the latrine is to be marketable and cost recovery successful in these low-income communities.
3. Even though most sanitation programs have strong social overtones, the economic benefits are in most cases difficult if not impossible to measure. This makes it necessary for governments to intervene in order to bear what can be considered as 'government costs'. A strong argument can be made against the individual householder having to pay more to include 'government' costs, than it would have cost him to install an equivalent latrine in his compound.
4. On-site sanitation in low-income areas brings benefits to the environment outside the compound. The external benefits to the community are again extremely difficult to measure. Thus, there is an element of the programme which is social in nature and this supports an argument for subsidies to be made for costs which do not go directly into physical coverage (ibid).

5.5.4 Cost recovery from the poorest in the community

Latrine acquisition depends to a large extent on the affordability and in many cases, there might be poor people who need sanitation most but whose income levels might be too low to make latrines affordable.

For such people, the facilitative role of the project becomes a matter of crucial importance in the acquisition of latrines and often, the village sanitation committee and the community have to contribute to make latrine acquisition possible. Without any financial help, such people would rather defer the acquisition of latrines until other assets of higher priority have been acquired.

Some options for ensuring that poor people within the communities are helped with latrine acquisition are:

1. The wealthier members of the community could be approached to voluntarily contribute small sums of money which will go into a fund for helping the poor in the acquisition of latrines.
Migrant workers who have just returned home and are keen to impress the rest of the population are very generous in this respect.
2. If a large proportion of the rural poor cannot afford an improved technology latrine, then alternative solution will be required.
One option is to encourage and provide services for such people to construct an adequate hygienic home-made latrine that relies entirely on locally available materials. The direct sealed pit latrine is a good option for such areas.
3. Demonstration latrines could be built in the homes of those unable to afford latrines. During the self-help environmental sanitation project in Botswana, demonstration latrines were built in the homes of those unable to afford latrines. The district councils which managed these projects also decided that part of the sanitation levy collected will be recycled into the provision of latrines for the poorest (Basaako K. et al. 1983).
4. In densely populated peri-urban areas those who cannot afford latrines at the household level should be provided with communal facilities, possibly with washing facilities by the implementing agency. The cost of operating and maintaining such facilities could be covered by levying a small toll for use of these facilities. Experience has shown that such commercialization of public facilities is possible. Pavement dwellers in Baldia (India) who belong to the lowest income groups had their communal latrines operated successfully on commercial basis.

5.5.5 Dealing with defaulters

Dealing with defaulters sometimes constitutes a rather thorny issue in cost recovery.

Some possible steps which can be adopted to abate the level of defaulting are:

1. Legislation and enforcement methods
This method has a history of low success rate and may end up in higher administration costs if applied on a mass scale.

2. Cutting of water connection to households.
This method has a limited applicability because very few houses have house connections.
In low-income peri-urban areas, this is also difficult to apply. Sometimes, a different organization uses the water service and in any case, such areas have the highest proportion of unregistered water meters.
3. Legal action against defaulters.
The costs involved in legal battles far outweighs the rewards. Though the sanitation could consider it a good deterrence to make examples of a few defaulters. The generality is that legal action is not a cost effective method of countering defaults. In rural communities legal action could discourage the acceptance of any development programs that might take place.
4. Increase in rate of interest in case of default. The contract for the latrine installation could include clauses which specify that the rate of interest on the loan (from the date of the last loan should be increased (by say 50%) in case of defaulting. Knowledge that defaulting could mean paying more could go a long way towards ensuring that would-be defaulters pay when due.

Experience has shown that cost recovery systems for sanitation projects which achieved a high collection rate with minimum defaulting did so because they were based on a system of agreements which were clearly explained to the beneficiaries and was also enhanced by peer pressure by the community on defaulters.

An important first step towards achieving cost recovery therefore will be for the householder to enter into a written and stamped legal agreement with the sanitation agency which sets down all conditions of latrine installation, costs and repayments. This agreement should clearly state what steps the agency could impose on defaulters to retrieve costs of latrines. The operation of the initial capital as a revolving fund for the village helps enhance the exertion of group pressure by the members of the community and above all, the best way of avoiding the problem of defaulters is to ensure that materials and services are made available only when they have been paid for.

CHAPTER 6

OVERCOMING DIFFICULTIES IN RESOURCE MOBILIZATION FOR SANITATION PROJECTS

6.1 The need for flexibility

Generally, it is true that significant progress has been made in the sanitation field during the last decade. Coverage has kept ahead of population growth and new low-cost technologies and appropriate delivery methods have been developed and field tested. The decade has also given the impetus needed to more governments to greater commitments to the sanitation field (Kalbermatten, J.M. and McGarry, M.G. 1987).

But despite these signs of progress, the fact is that the future for the sanitation field is still a long way from achieving the goals of the decade. Latest estimates are that less than 20% of the population in developing countries have adequate sanitation (Rotival, A. (1989). It is therefore, clear that substantial increases in both national and external funding will be necessary to mobilize the resources required if coverage is ever to reach the 100% target set to be achieved by the year 2000 (Kalbermatten, J.M. and McGarry, M.G. 1987).

Historically, resource coverage for sanitation programmes have mostly been an agency responsibility. The principal source of funds for this field has been government grants, subsidies and loans supplemented by external loans, credits and grants and communities have looked upon these agencies as the mass provider of sanitation services. The increasing realization however, is that if the aims of the decade are ever to be achieved, then resource mobilization should cease to be regarded as an agency responsibility. Coverage of the necessary resources for sanitation projects should be treated more as an exercise in partnership and agency contributions should be supplemented on a larger scale with contributions of cash and in kind from the community/household wherever possible. How the balance for the contribution of resources is set will vary from place to place but generally, communities/households should carry as large a part of the responsibility as possible.

There is therefore the need for flexibility on the part project planners in deciding on the balance of responsibilities. Decisions should be made bearing in mind the communities capacity to pay and project implementors should strive to promote the willingness of communities to contribute to resource mobilization for sanitation projects. To achieve this, motivational, educational and training programmes have to be considered as important components which have to be incorporated in sanitation program implementation. Governments and agencies should refrain from adopting solutions for resource coverage which have been imported from elsewhere or which has been adopted by some authority but should adopt flexible approaches that involves open-minded experimentation and drawing of useful lessons that seeks to achieve effective solutions that can be applied successfully on a large scale (de Graaf, M. 1989).

6.2 Some recommendations on Resource Coverage

In general, it could be recommended that the resource requirements of identifying sanitation projects should be provided at all levels through the normal operating budgets of the sanitation agency in charge. External funding for this stage should be avoided whenever possible and the project identification task should be performed as part of the normal planning duties and responsibilities of sanitation agencies (Shipman, H. 1981). The contribution of the community/households at this stage should be limited to the provision of complete and reliable information on the factors which should influence project identification to project staff (UNCHS (Habitat), 1986A).

Resource requirements for project preparation and communication support will commonly require funds besides those required for normal operation of sanitation agencies. Resources for special studies, organizational, managerial, communication support or financial details may involve specialized attention and unusual technical problems which may demand consultant assistance. Where foreign experts are involved, a foreign exchange component may be involved. The financing of project preparation could therefore be resourced by national agencies with the help of bilateral sources and from other external sources (Shipman, H. 1981). The communities involvement at this stage will mainly be in the form of providing project staff with complete and reliable information and by discussing, estimating and deciding with project staff on matters concerning resource mobilization, construction, operation and maintenance of sanitation systems.

For large-scale sanitation programs, resource requirements of such aspects of implementation as mobilization, logistics training, research and demonstration as well as supervision is most conveniently covered by government agencies with/without external support. For most community based sanitation systems, the cost of these aspects are quite substantial and the inclusion of these costs among those to be covered by beneficiaries would simply make the acquisition of latrine unaffordable to most beneficiaries.

For direct physical coverage of new latrines, agency contributions to resource mobilization should be supplemented as much as possible by contributions in cash/kind from the community. The increasing realization is that with the limited funds available for sanitation, there is simply not enough "free" money to pay for meeting the aims of the decade, therefore, financial strategies that are adopted for the implementation of sanitation projects should take account of this state of affairs and should encourage the mobilization of as much of the required resources needed for implementation from the community. The requirement should be that every community served should be ready to bear the responsibility of as much of the latrine costs as can be affordable and in particular, the full costs of operation and maintenance of the system (Shipman, H. 1981).

LIST OF REFERENCES

CHAPTER 1.

1. De Graaf, M. (1989). "Rural Sanitation - A story of Failures? Jala-Sandesh Magazine, Vol. 1. no. 3. March 1989, pp. 4-6.
2. George, R.G. (1988). "Rural Sanitation Programme". Jala-Sandesh Magazine, Vo. 1, No. 1, July 1988, pp. 4-5.
3. Kalbermatten, J.M. and McGarry, M.G. (1987). "Beyond the Decade". IDWSSD Consultation, Interlaken, Switzerland, p.13.
4. Rotival, A. (1989). "Beyond the Decade - A framework for Global Cooperation" Source Magazine, September 1989, pp. 2, 22.
5. UNCHS (1986A). "Community Participation in Low-cost Sanitation - Training Module". United Nations Centre for Human Settlements (Habitat), Nairobi, Kenya, 1986, p. 1.

CHAPTER 2

1. Govt of Botswana/UNDP/WB/UNICEF (1988). "Self help Environmental Sanitation Project" End of Project Evaluation Report, p. 50.
2. Govt. of Pakistan/IBRD/CIDA (1988). "National Workshop on Rural Water Supply and Sanitation: - The Punjab Sanitation Program, pp. 15.
3. Mara, D.D. Design of Pour-Flush Latrines" TAG Technical Note 15. A joint UNDP/World Bank contribution to the IDWSSD.
4. Roy, A.K., Chatterjee, P.K., Gupta, K.N., Khare, S.T., Ran, B.B., Singh R.S. (1984). "Manual on the Design, Construction and Maintenance of Low-cost Pour-flush Waterseal Latrines in India. A joint UNDP/World Bank Contribution to the IDWSSD. pp. 21, 31.
5. UNCHS (1986A). "Community Participation in Low-Cost Sanitation - Training Module". United Nations Centre for Human Settlements (Habitat) Nairobi, Kenya, 1986, pp. 47.
6. UNCHS (1986B). The Role of Women in the Execution of low-income housing projects - training module". The United Nations Centre for Human Settlements (Habitat) Nairobi, Kenya, 1986, pp. 37.
7. WHO (1978). "Conversion of Bucket Privies into sanitary water seal latrines. Govt. of India/ UNICEF/WHO Regional Office for S.E. Asia (1989). p. 45-46.

8. WHO (1988). "Principles and models to achieve sustainable community water supply and extend household sanitation: Report of the fourth consultation on institutional development, WHO, Geneva, p. 4.
9. World Bank (1988). "Pakistan - Rural Water, Health and Sanitation Sector Review". WB Report, No. 7060 - PAK, p. 33.

CHAPTER 3

1. Baker, J.S. (1986). (WASH Field Report No. 167). "Financial and Economic Consideration - Rural Sanitation Project, Lesotho, pp. 15-18.
2. Basaako et al (1983). "Handbook for District Sanitation Coordinators" (TAG Technical Note 19). A joint World Bank/UNDP Contribution to the IDWSSD. p. 60.
3. BKH (1989). "Quelta Sewerage and Sanitation Project - Lpw Cost Sanitation Project Report". - BKH/Haskoning/National Engineering Services Ltd (Pakistan). pp. 83-84.
4. Drucker, D. (1986). "Of latrines and video cassette recorders - inroads on developments" UNICEF News, No. 124, p. 10.
5. Cubbs, K. (1984). "Privacy and Pit Latrines" Waterlines Magazine, Vol. 3, Vol. 1, July 1984.
6. Heeves, P.J. (1983). "Evaluation of Sanitation Program Planning" MSc-Thesis, Delft University. p. 34.
7. UNCHS (1985). "Community Participation, Cost Recovery and Affordability - Training Module". United Nations Centre for Human Settlements, Nairobi, Kenya, 1985, p. 30.
8. UNCHS (1986A). "Community Participation in Low-cost Sanitation- Training Module". United Nations Centre for Human Settlements, Nairobi, Kenya, 1986, p. 18, 22, 40
9. UNCHS (1986B). "The Role of Women in the Execution of Low-income Housing Projects - Training Module". United Nations Centre for Human Settlements, Nairobi, Kenya, 1986, p. 28.

CHAPTER 4

1. De Graaf, M. (1989). "Rural Sanitation - A story of Failures? Jala-Sandesh Magazine, Vol. 1. no. 3, March 1989, pp. 4-6.
2. HPE/Pan American Health Organization (1986). "Americas - Regional Resource Mobilization Profile". The IDWSSD, Regional Support Consultation, Washington D.C., 1986, pp. 16-20.

3. Kalbermatten, J.M. and McGarry, M.G. (1987). "Beyond the Decade", IDWSSD Consultation, Interlaken, Switzerland, p. 5.
4. Rotival, A. (1989). "Beyond the Decade - A framework for Global Cooperation". Source Magazine, September 1989, pp. 2, 22.
5. UNCHS (1986A). "Community Participation in Low-cost Sanitation - Training Module". United Nations Centre for Human Settlements, Nairobi, Kenya, 1986, p. 26-27.
6. World Bank (1986). "Pakistan - Rural Water, Health and Sanitation Sector Review". WB Report No. 7060 - PAK p. 55, 60.

CHAPTER 5

1. Baker, J.S. (1986). (WASH Field Report No. 167). "Financial and Economic Consideration - Rural Sanitation Project, Lesotho, pp. 27-30.
2. Basaako, K.; Parker, R.D.; Waller, R.B.; Wilson, G.J. (1983). "Handbook for District Sanitation Coordinators" (TAG Technical Note 19). A joint World Bank/UNDP Contribution to the IDWSSD. p. 55, 62.
3. BKH Consulting Engineers (1989). "Quelta Sewerage and Sanitation Project - Low-Cost Sanitation Project Report". - A report by BHG Consulting Engineers in association with the National Engineering Services (Pakistan) Ltd and Haskoning Engineers (Nijmegen). pp. 83-84.
4. WHO/CWS, 1988. "Water Supply and Sanitation" Vol. II. Principles and Models to achieve sustainable Community Water Supply and to extend household sanitation. Report of the fourth consultation on institutional development, WHO. Geneva, p. 4.
5. Roy, A.K., Chatterjee, P.K., Gupta, K.N., Khare, S.T., Ran, B.B., Singh R.S. (1984). "Manual on the Design, Construction and Maintenance of Low-cost Pour-flush Waterseal Latrines in India. A joint UNDP/World Bank Contribution to the IDWSSD. pp. 21.
6. Shipman, H. (1981). "Strategies for financing water and sanitation projects" Bulletin of the Pan-Am Health Organization. Vol. 15 (3), 1981. pp. 208-215.
7. UNCHS (1986A). "Community Participation in Low-Cost Sanitation - Training Module". United Nations Centre for Human Settlements (Habitat) Nairobi, Kenya, 1986, pp. 33.
8. UNCHS (1986B). "The Role of Women in the Execution of Low-income Housing Projects - Training Module. United Nations Centre for Human Settlements (Habitat) Nairobi, Kenya, 1986, pp. 37, 39, 57-61.

9. Wright, A.M. (1983). "Draft Plan of Operation - Mbeya Pilc Sanitation Project" World Bank/DANIDA, 1983, p. 5.

CHAPTER 6

1. De Graaf, M. (1989). "Rural Sanitation - A story of Failures? Jala-Sandesh Magazine, Vol. 1. no. 3. March 1989 pp. 4-6.
2. Kalbermatten, J.M. and McGarry, M.G. (1987). "Beyond the Decade". A paper presented for presentation at the IDWSSD Consultation, Interlaken, Switzerland, p. 12-13.
3. Rotival, A. (1989). "Beyond the Decade - A framework for Global Cooperation" Source Magazine, September 1989, pp. 2, 22.
4. Shipman, H. (1981). "Strategies for financing water and sanitation projects" Bulletin of the Pan-Am Health Organization. Vol. 15 (3), 1981. pp. 208-215.
5. UNCHS (1986A). "Community Participation in Low-Cost Sanitation - Training Module". United Nations Centre for Human Settlements (Habitat) Nairobi, Kenya, 1986, pp. 33.