

COMMUNITY WATER SUPPLY AND SANITATION

PRINCIPLES AND MODELS
TO ACHIEVE SUSTAINABLE COMMUNITY
WATER SUPPLY AND TO EXTEND
HOUSEHOLD SANITATION

**Report of the fourth Consultation
on Institutional Development
Working Group on Cost Recovery**

Geneva, 21 - 25 November 1988

VOLUME II

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This report presents the recommendations of a WHO consultation on institutional development (cost recovery) in water supply and sanitation (Geneva, 21-25 November 1988). Volume I, "Managerial and Financial Principles for Water Supply and Sanitation Agencies", is based on the conclusions of Working Group I on agency-managed systems (Mr H.C. van der Mandele, Rapporteur). Volume II, "Principles and Models to Achieve Sustainable Community Water Supply and to Extend Household Sanitation", reports the conclusions of Working Group II on community- and household-based water supply and sanitation (Mr C. Wang, Rapporteur).

L. Laugeri, WHO/CWS, Secretary of the Consultation.

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ABBREVIATIONS

ANAFID	Association Nationale des Améliorations Foncières, de l'Irrigation et du Drainage, Morocco
Aya	WSS Institute, Costa Rica
CEFIGRE	Centre de Formation Internationale à la Gestion des Ressources en Eau, France
CGE	Compagnie Générale des Eaux, France
EPFL	Ecole Polytechnique Fédérale de Lausanne, Switzerland
GTZ	German Agency for Technical Cooperation
ILO	International Labour Organization
IRC	International Reference Centre for Community Water Supply and Sanitation
NRW	Non Revenue Water
NVE	Norwegian Water Resources and Energy Administration
ONEP	Office National de l'Eau Potable, Morocco
O&M	Operation and Maintenance
PEPAS	Western Pacific Regional Centre for the Promotion of Environmental Planning and Applied Studies
PHC	Primary Health Care
SDC	Swiss Development Cooperation
SNE	Société Nationale des Eaux, Niger
SNEP	Société Nationale de l'Eau Potable, Haiti
TUT	Tampere University of Technology, Finland
UDDAS	CWS National Agency, Mozambique
UFW	Unaccounted-for Water
WAJ	Water Authority of Jordan
WHO	World Health Organization
WHO/SEARO	Regional Office of WHO for South-East Asia
WSS	Community Water Supply and Sanitation

INTRODUCTION

The Fourth Consultation

1. A consultation was held at the Headquarters of the World Health Organization (WHO) in Geneva, from 21 to 25 November 1988, on Institutional Development in Water Supply and Sanitation (WSS). The 46 members of the Consultative Group included Dr M.M. Nzuwah, Permanent Secretary, Ministry of Local Government, Rural and Urban Development, Zimbabwe, Chairman; Mr Y.N. Ojha, Additional Secretary, Ministry of Housing and Physical Planning, Nepal, Vice Chairman; Mr Eladio Prado, Executive President, Costa Rica Institute for Water Supply and Sewerage (AyA), Rapporteur General; 21 senior sector officials from developing countries; 10 representatives of bilateral and international support agencies; and 12 consultants or experts from private consulting firms.
2. The Secretariat was provided by economists and engineers from the CWS Unit of WHO, including Mr M. Acheson, Manager, and Mr L. Laugeri, Secretary of the Consultation. The complete list of participants is in Annex I, as part of the general list of the seventy members of the WHO Working Group on Cost Recovery in WSS.
3. This fourth Consultation on institutional development in WSS was opened by Dr W. Kreisel, Director of the Environmental Health Division of WHO, who welcomed the participants and recalled the background and objectives of the meeting. Between 1985 and 1988, three consultations and a study group on institutional development had been organized by WHO and the International Reference Centre for Community Water Supply and Sanitation (IRC/CWS); a Working Group on cost recovery had been formed, and it had elaborated guiding principles and frameworks for agency-managed systems, and for community- and household-based WSS. These distinctions between agencies, communities and households had been made to reflect the relative importance of each one of these decision-makers and managers in specific circumstances, e.g. the agency when rehabilitating an urban sewage treatment plant, the community when mobilizing local resources to build a village well, the household when drawing on its savings to buy a latrine slab. Other distinctions, based on system size or urban vs rural differences, were only indirectly considered.
4. The objective of the fourth consultation was to finalize the guidance documents and recommend follow-up action with the support of WHO, IRC/CWS, the donor community, and consultants and consulting firms. Technicians, financiers and users were all represented in the meeting, which included officials from more than thirty countries, both developing and industrialized, of the six WHO regions. The Consultative Group was divided into two working groups, each consisting of English- and French-speaking subgroups. Working Group I defined principles and approaches applicable essentially to agency-managed systems. Working Group II, whose task was of a more exploratory nature, dealt with areas where the main end-responsibility rests with the community, a highly specific entity, and it therefore presented its report in the form of broad guiding principles and reference frameworks, with emphasis on negotiation and implementation processes and procedures.

Results

5. The reports of both working groups reflect a common concern that cash resources should be at least sufficient to cover cash expenditures. Liquidity maintenance and continuity of the service are regarded as essential, hence the definition of a "shoe box principle": nothing can come out of a shoe-box unless something is put into it first. This is an analogy to an old shoe-box being used for storing household cash.

6. The report of Working Group I on agency-managed systems contains managerial principles directed at reducing costs and facilitating their partial or full recovery. Agencies should be granted more autonomy and responsibility, so that they can take steps to improve efficiency, including cost control, reduction of non-revenue water, maintenance of facilities, and improvements in billing and collection. The service provided should be tailored to the needs of the consumers, with the objective of stimulating their "willingness to pay", which is by far more important than what the agency thinks is their "ability to pay". Average tariffs should cover operating expenses, changes required in working capital, debt-service and, where possible, a surplus to allow for extension needs.

7. The report of Working Group II deals with the "Community": this is understood as both the group responsible for managerial and financial decisions and the sum of its members. As cash resources are scarce in most urban poor and dispersed rural communities, Working Group II identified other resources: time, skills, labour and locally-provided materials (and equipment). Cost-recovery, cost-containment and cash-raising approaches should be Community-focused, clearly defined, understood and accepted by the Community, and formally agreed to by the Community. They should reflect the Community's willingness to pay. As a minimum, water rates should cover operation and routine maintenance costs. For low-cost sanitation installations, the cost recovery system adopted should allow the Community to cover the cash requirements of its latrine coverage programme.

Presentation of the Report

8. The report is presented in two separate volumes:

- Volume I (WHO/CWS/89.5), entitled "Managerial and Financial Principles for Water Supply and Sanitation Agencies", is the report of Working Group I (Mr H.C. van der Mandele, Senior Economist, Rapporteur);

- Volume II (WHO/CWS/89.6), entitled "Principles and Models to Achieve Sustainable Community Water Supply and to Extend Household Sanitation", is the report of Working Group II (Mr C. Wang, Sanitary Engineer, Rapporteur).

Implementation

9. The follow-up steps at country level are outlined in Annex II. Some activities, including three regional and six national workshops, case studies, and technical support to on-going projects were decided during the Fourth Consultation and implemented shortly thereafter. The representatives of the twenty-one developing countries present at this consultation have confirmed their intention to field test the guidance material and to support its implementation. Further improvements are therefore to be expected, and the present report should not be regarded as a final statement of policies and procedures, but rather as one of a series of attempts to clarify some managerial and financial principles conducive to cost-containment and improved cost recovery and resources coverage in WSS.

PROBLEM DEFINITION

Common Shortcomings in WSS Financial Management

10. Although many WSS economists and financial analysts are capable of designing sound tariff structures, WSS services are provided in most countries at prices which are unrelated to financial or economic costs. Large consumers including governments sometimes do not pay their water bills. Industries often enjoy the benefits of private supplies and discharge untreated effluents, free of any charge or penalty. Tariffs are high for those who pay. Utilities have irregular incomes and sometimes cannot meet fixed obligations like debt-service or payroll: subsidizing is the rule. Inadequate tariff-setting is but one reason for this state of affairs, the more important ones being unwillingness of users to pay, lack of qualified staff, and lack of political will and commitment to contain and recover costs.

Study Rationale

11. Although the fulfillment of at least minimum WSS needs is an essential step towards the health improvement objectives of most governments, half of the population of the developing world is still deprived of adequate WSS facilities. Providing WSS free of charge to part of the population would result in a lack of these services for other people. The need for managerial and financial improvements is critical, due to budgetary constraints and the necessity to optimize water utilization. Service levels deteriorate for lack of provisions to cover replacement, maintenance and even operational needs, so that it has become essential to improve the allocation, size and timing of application of investment funds, as well as take all possible cost containment measures, and diversify and increase the sources of recurrent income.

12. Water tariffs which reflect future needs can exceed the means of the poor. The compensation possibilities are reduced, due to the imbalance between the low-income population which grows rapidly, and the stagnating group of large consumers. Efforts to extend services towards urban poor and rural areas are often in vain, because of a growing need to subsidize those who have water. A large part of the water is lost in distribution, and the remainder is often sold at less than cost, while the poor who are not served are charged high prices by water vendors. There is a need for the less-privileged communities, irrespective of size or location, to organize themselves to construct, operate and maintain WSS facilities, and to derive maximum benefits from them, while ensuring that all costs are met.

13. Broader institutional improvements, based for instance on coordinated intersectoral action, decentralization, or in some cases divestiture of responsibilities, can within limits be conducive to improvements in financial management. The reduction of non-revenue water (NRW = all water which is unaccounted for or otherwise unpaid) remains the most effective cost-containment measure in most water supply systems.

Purpose of this Report

14. This report summarizes the results of a consultation of professionals of the WSS sector, in order to provide information and guidance on possible managerial and financial improvements to students of all disciplines, political decision-makers of all tendencies, and community members and agency managers in charge of providing and maintaining WSS at prices compatible with the needs and means of the people they serve.

OBJECTIVES AND KEY CONCEPTS

Resources coverage, Sustainability and Expansion

15. As indicated in its title, Volume II of the Consultation's report deals with the objectives of achieving sustainable community water supply, and extending household sanitation, in the numerous cases where the community, and the households which it comprises, are the main WSS development agents*. In order to achieve these objectives, major emphasis is placed on the concept of resources coverage, a process by which all financial inputs and other resources necessary to develop, operate and maintain WSS facilities are identified, quantified, sourced and timed, to optimize subsequent mobilization and implementation processes.

16. For water supply, a sustainable system is one which is based on affordable, appropriate technology, and continues to deliver a high level of water-related benefits after completion of the project. For sanitation, the extension of household coverage consists of the provision of individual latrines, or other low-cost sanitation units, to unserved populations.

17. In WSS, system sustainability and expansion are dependent upon resource inputs by the community and by external agencies. Direct agency inputs include specific project expenditures for materials, equipment and labour, while indirect inputs consist of internal agency operating costs. Direct community inputs include cash payments as well as in-kind contributions of materials, labour and other resources. The resources are those used directly on the systems and do not include any general administrative or other social costs of either the agency or the community. The analysis, therefore, is from the system or project viewpoint rather than the national or overall economic viewpoint.

18. In general, system costs encompass all resource inputs used in the direct development and operation of water and sanitation facilities. These inputs include the direct capital and recurrent costs which are normally assessed in financial terms as well as in-kind inputs which involve no direct financial transactions. "Cost recovery" is the process by which the agency recovers from the community part or all of direct agency investment in the system: this implies a financial obligation on the part of the community. "Cash raising" is the process by which the community raises cash from its members to meet its financial obligation to the agency. The community also contributes towards offsetting system costs through other cash and in-kind inputs.

Scope and Contents of this Document

19. The intention of this document is to provide a structure that allows resources coverage and related questions to be answered. This structure is for use in project identification, formulation, preparation and appraisal, as well as during the construction, operation, maintenance and evaluation phases. The document presents:

- concepts and processes related to the attainment of resources coverage as a step towards the achievement of WSS development goals;
- basic guiding principles;
- worksheets that can be used as planning, monitoring or evaluation tools, in preliminary or detailed fashion, or simply as checklists.

* An elaboration of the ideas for agency-managed systems is to be found in Volume I.

20. The document is designed to create and promote awareness of resources coverage and related concepts (cost recovery, cash-raising, sustainability, expansion), to assist in the process of identifying and allocating inputs and resources required for successful projects, and to help better plan, design, appraise, implement, monitor and evaluate WSS projects.

Key Concepts

21. Figure 1 provides an illustration of the distinction which is made between water supply and low-cost household sanitation; the two types of projects are different in terms of overall objectives, nature and timing of required cash and in-kind inputs, and basic orientation (i.e. water supply being primarily community-oriented in its organization; low-cost sanitation being primarily household-oriented). Higher-order WSS development objectives will therefore include:

- for water supply, systems that are sustainable;
- for household sanitation, achievement of maximum extension (coverage), ownership and use of latrine units.

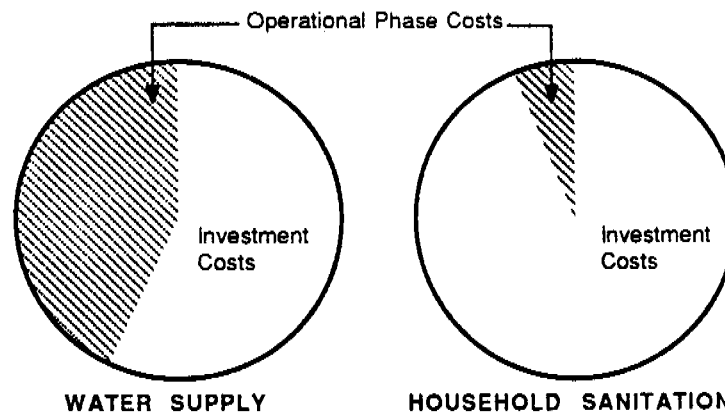


Figure 1. Representation of Costs/Input Differences
Between Community Water Supply and Household Sanitation Projects

22. There is generally limited cash within the community. Addressing only cost recovery and cash issues is therefore too restrictive. In-kind community resources -- time, skills, labour and materials -- are significant, and must be recognized. Figure 2 provides an overview of important concepts and linkages:

- successful projects and attainment of "higher" development goals require successful implementation of inter-related key elements, for instance community extension services, appropriate technology, etc (lists are provided in the following pages);
- the process of resources coverage helps ensure that all development and operational phase input requirements are met by someone;
- the agency and community jointly share responsibilities related to resources coverage;
- the community's inputs may be as cash or as in-kind contributions;
- cost recovery and cash raising are mechanisms that help enable the agency and the community, respectively, to meet their financial commitments to the project;
- cost recovery and cash raising can only succeed where genuine political will and government commitment are present.

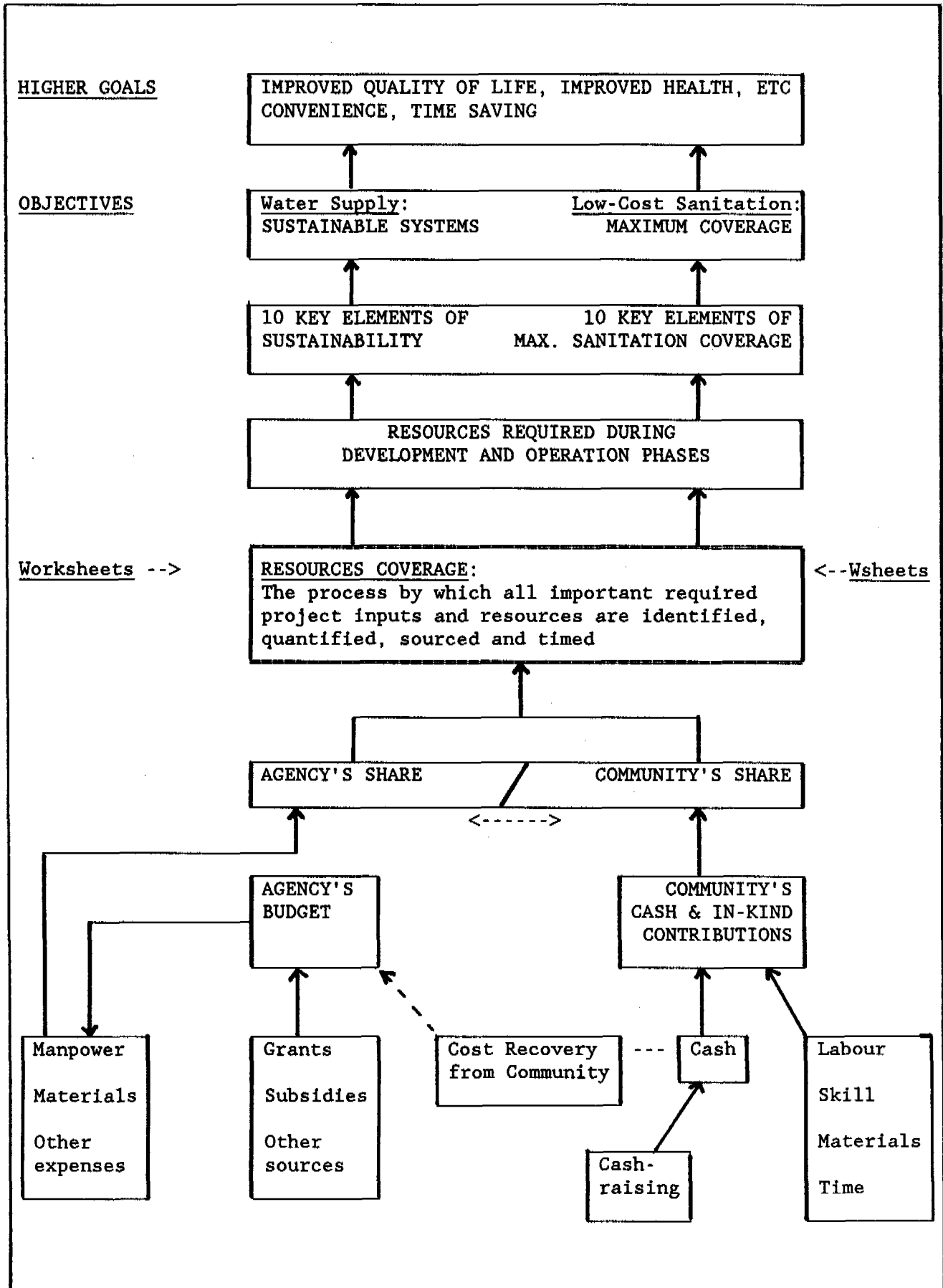


Figure 2. Resources Coverage, Cost Recovery and Cash-Raising

Partnership between Community and Agency

23. In the unlikely event that the implementing agency (referred to as the Agency) is willing and able to assume all responsibilities for construction and operation and maintenance of WSS facilities, then most problems can be handled internally. Much more likely, however, is that the Agency has limited resources and that users and project beneficiaries (referred to as the Community or Household, whichever is most appropriate) sooner or later must assume some degree of financial and managerial responsibility for constructed facilities. Finding a workable answer is more complex, as community capabilities are not always as easy to assess as those of agencies. The issue is illustrated graphically in Figure 3.

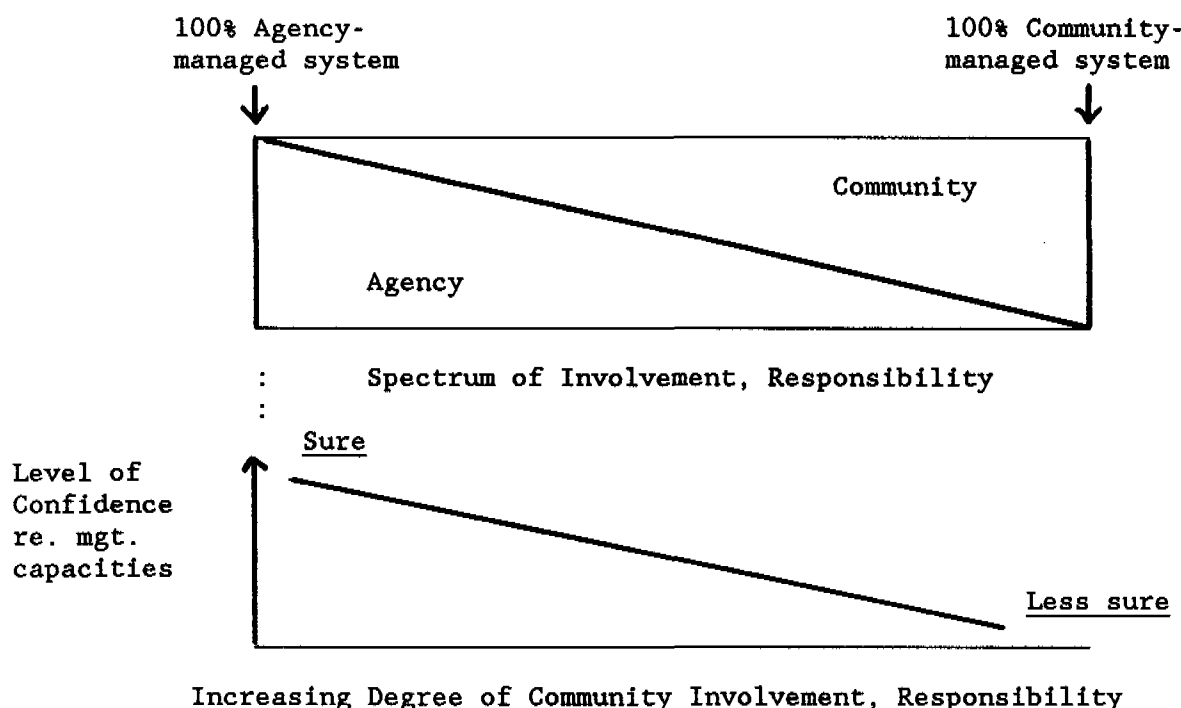


Figure 3. Involvement, Responsibility and Confidence Relationships.

24. In the case of an (unlikely) 100% Agency-managed system, and assuming a well-functioning, adequately resourced agency, there exists a high degree of operational certainty. Most potential problems can be anticipated and handled internally. There is little unexpected that cannot be resolved in a timely fashion. In the case of (equally unlikely) 100% Community-managed facilities, there are many uncertainties -- re.: skilled personnel, socio-cultural and economic conditions, organizational capacities, etc. -- that must be overcome before performance reliability and cash liquidity can be ensured. At any point in-between the two extreme points, there is division of involvement and financial and managerial responsibilities. Because of these divisions, it is crucial to obtain at the earliest possible point, mutual agreement as to who is responsible for what, when.

25. For rural/peri-urban water supply and sanitation projects in developing countries, most external support agencies and recipient countries now realize, accept and require that communities should assume ownership and greater responsibilities for management, operation and maintenance of constructed facilities. Very often, however, there are gaps in the provision of resources and the execution of commitments between the Agency and the Community or Household. And as a result, sustainable, replicable projects are often not achieved.

26. With reference to Figure 4, various situations can be illustrated graphically. The diagonal line represents potential division of responsibilities between the Agency and the Community. Moving up or down the line reflects a particular balance negotiated, with the relative shares of responsibility of the Community and the Agency increasing/decreasing accordingly.

27. In Figure 4.A, the right balance, as represented by "A-C", has been struck, and the necessary resources can be covered. In this case, the Agency and the Community can fulfil (have fulfilled) their defined commitments.

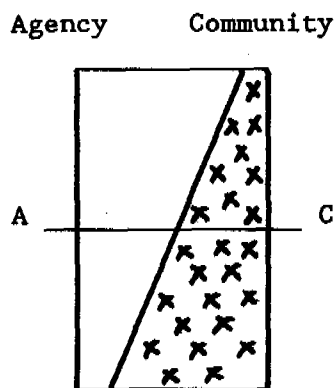


Figure 4.A
Right balance achieved,
resources covered.

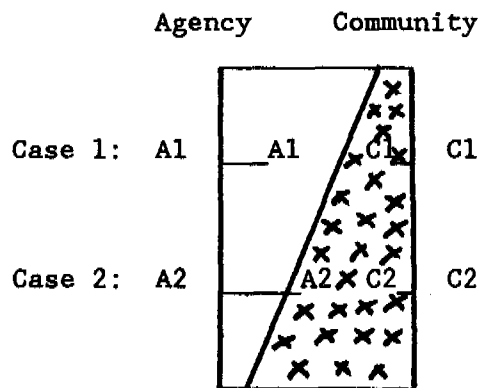


Figure 4.B
Incorrect balance --> gaps
in covering resources.

Figure 4. The importance of the right balance of responsibilities.

28. Different situations are shown in Figure 4.B, where gaps between resources available (or actually provided) arise:

- . Case 1 "A1-A1" and "C1-C1" do not meet, indicating that neither party can fulfill its commitments. Actions should therefore be taken to ensure/strengthen each partner's ability to meet their obligations, and/or a different level of technology/balance of responsibility should be negotiated, so the gap can be reduced or eliminated.
- . Case 2 not only do "A2-A2" and "C2-C2" not meet, but also one partner is doing much more than it should be, and the other much less. In this situation, actions should be taken to ensure that both parties understand and accept their responsibilities. The corrective actions identified in Case 1 may also be appropriate.

OUTLINE OF THE RESOURCES COVERAGE PROCESS

Level of Service and Technology Choices

29. An important concept underlying a resources coverage approach to water supply and sanitation is that Community members (especially women) are actively involved in the decision-making process -- specifically, 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, in negotiation with the Agency, the technology best suited to their own particular situation (Figure 5). This type of decision-making process, represented schematically below, can lead to more realistic projects, and lower investment and operational phase costs. Important to realize, accept and allow for, however, is that this process takes time and skilled guidance.

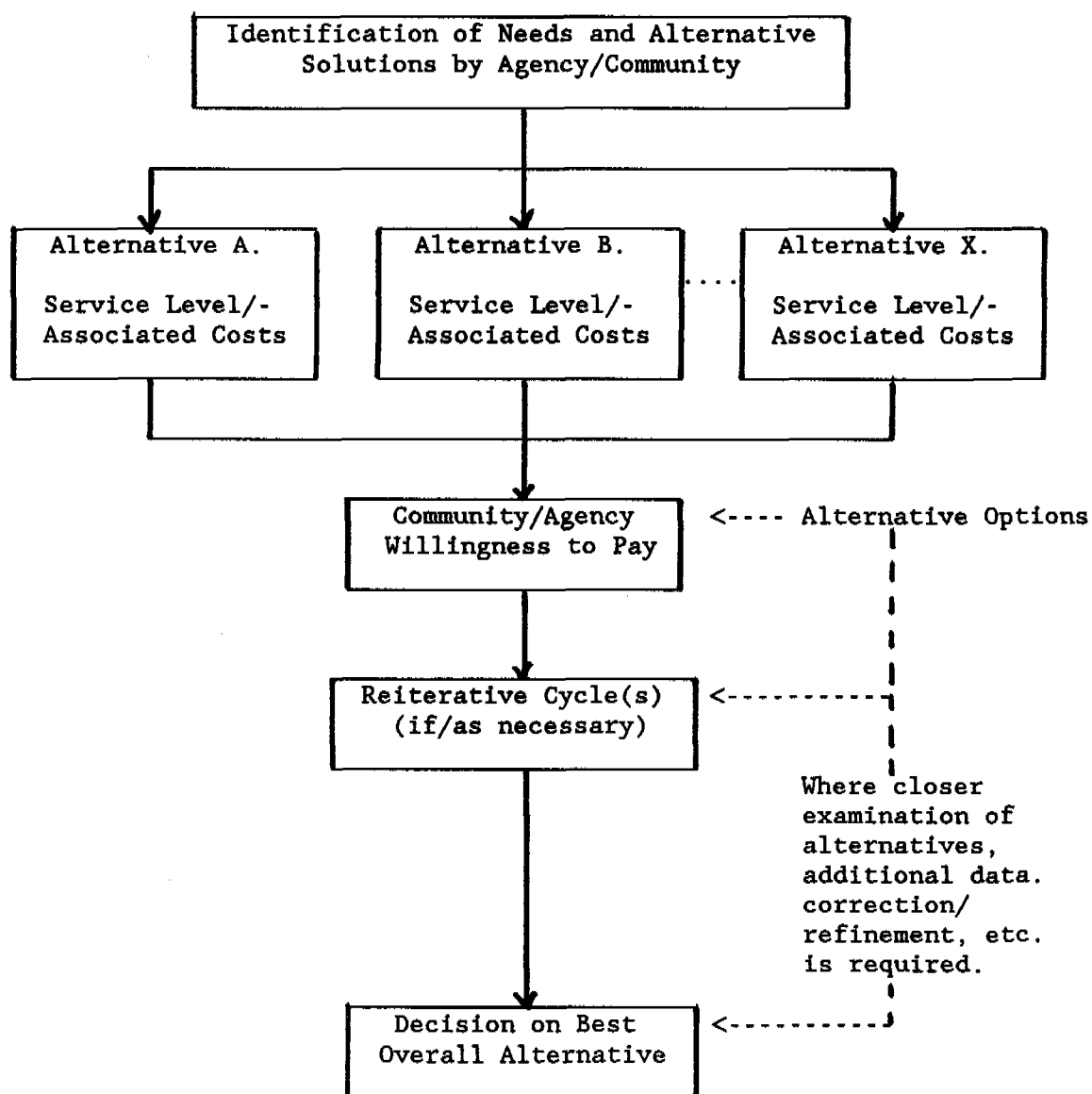


Figure 5. Community-Based Decision-Making Model

Rationale for Resources Coverage

30. Some broad answers to basic questions on resources coverage are proposed as follows:

Why?

Why a resource coverage approach?

- requirement for viability and continuity of services;
- coverage of replacement/extension/quality improvement needs;
- development of internal community organization and initiative;
- need to distinguish responsibilities of user communities and WSS agencies;
- raising awareness and appreciation of the value of drinking water and sanitation.

What?

What resources need to be covered ?

- operation and maintenance costs (partly or in full);
- replacement/renewal/extension costs (partly or in full);
- initial investment (partly or in full);
- resources for ongoing hygiene education and for support provided by the Agency to the community.

Calculation of Price to User Communities (for domestic or productive/lucrative use)

In consultation between agency and community:

- calculation of the full cost including investment and operation and maintenance costs;
- analysis of the economic capacity of the user community;
- evaluation of the community's motivation to participate;
- determination of price (also a function of use) by comparison between real cost and willingness to pay.

From Whom?

Can sources (of funds, ...) be identified?

- the users, as defined during negotiations with user community (domestic and/or productive/lucrative use);
- the Agency, or body external to the user group;
- external sources such as External Support Agencies.

When?

When are inputs to be made?

- period decided on a case-by-case basis, according to community's and agency's expressed intentions; process and period should be regular (timing to be agreed upon by both agency and community partners) and well-known.

How?

How should inputs from Community/Household be made?

- avoid actual handling of money as far as possible;
- adapt accounting systems to situation of community;
- adopt mutual (users, managers, agency) control mechanisms;
- establish in advance the basis on which tariffs will be applied (fixed monthly charge, volumetric charge, etc).

31. Figure 6 illustrates that cash-raising and cost recovery are considered important means contributing towards achievement of higher WSS project objectives. Both mechanisms serve to ensure:

- ** Consciousness and appreciation by users of the value of the product (i.e. water and/or low-cost sanitation).
- ** Project viability and continuity.

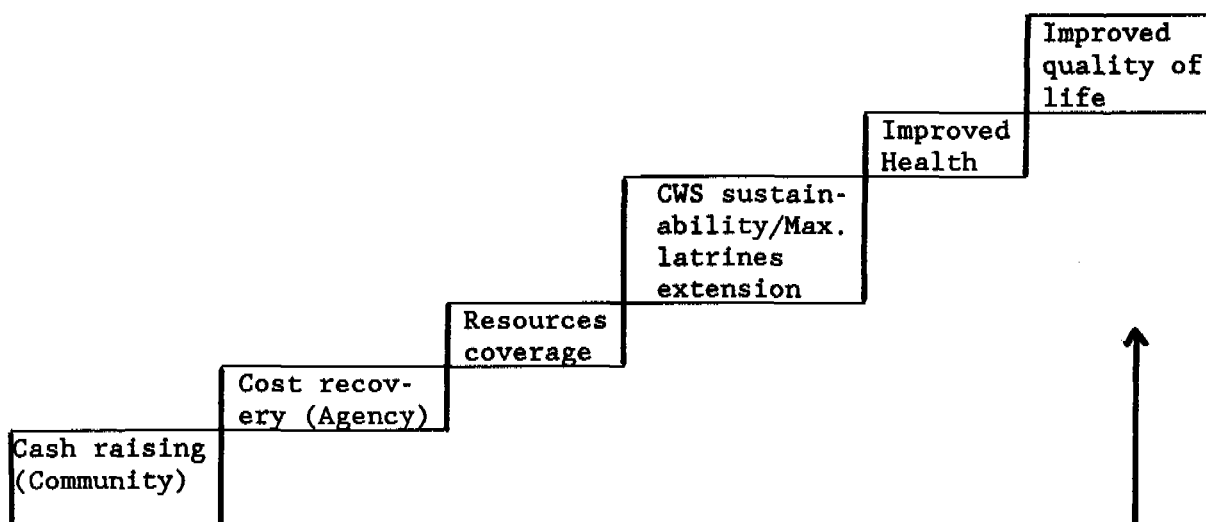


Figure 6. Cash-Raising and Cost Recovery Linkages

GUIDING PRINCIPLES FOR RESOURCES COVERAGE

General

32. The fundamental principles can be stated as follows:

- ** All water/sanitation project cash and in-kind resource requirements should be IDENTIFIED, QUANTIFIED, SOURCED and TIMED.
- ** All COSTS SHOULD BE COVERED by someone (agency, community, household, individual).
- ** COMMUNITIES/USERS/BENEFICIARIES SHOULD CONTRIBUTE to meeting water/sanitation system costs.
- ** To the maximum extent possible, COMMUNITIES/USERS/BENEFICIARIES SHOULD BE RESPONSIBLE for their own water/sanitation systems.
 - . As a minimum, they should find the resources to cover routine OPERATION AND MAINTENANCE costs of facilities (including cash needs).
 - . Ideally, and as a long-term goal, they should repay all direct system INVESTMENT costs.
- ** CASH should be on-hand and AVAILABLE when needed within the Community.

Water Supply

33. The resources coverage system adopted should be:

- ** community-focused,
- ** clearly defined,
- ** understood and accepted by the Community as reasonable,
- ** adapted to the Community's willingness to pay,
- ** formally agreed to by the Community.

34. It should contribute towards long-term sustainability by maximizing user contributions (thereby minimizing reliance on grants and cross-subsidies). As a minimum, it should seek to cover routine operation and maintenance costs. Thereafter, and where possible, coverage of system replacement and renewal costs should be achieved, and ultimately, system expansion and/or upgrading costs should not only be considered, but strongly promoted as long-term recovery objectives.

35. Where appropriate, the timing of contributions from users should reflect the annual financial cycle of the Community. In agriculture-based communities, for instance, where "extra" cash may be available only after the harvesting season, the system and timing of cash collection should be structured accordingly. Where appropriate, cash transactions should be minimized, e.g. by reducing frequency of charging, using tokens, etc.

Low-cost Sanitation

36. The resources coverage system adopted should be:

- ** household and community-focused,
- ** clearly defined,
- ** understood and accepted by the household/community as reasonable,
- ** a reflection of the household's willingness to pay its fair share of construction-related costs (e.g. for purchase of concrete and steel reinforcement -- or prefabricated concrete slabs --, ventilation pipes and superstructure materials).

37. The system should aim towards covering cash requirements of projects that promote extension of low-cost sanitation units. There should be formal agreement or contracts between parties concerned whenever loans, installment payment agreements, revolving funds, etc. are used as financing mechanisms.

38. The guiding principles above -- and Key Elements for water supply and low-cost sanitation (presented below) -- should be "tailored" as required to conform to the framework of the surrounding "larger environment" of government policies, and influencing physical, economic, political, socio-cultural, psychological, and institutional factors.

Mechanisms for Agency Cost Recovery and Community Cash-Raising

39. It is beyond the scope of this document to treat cost recovery and cash-raising principles and methods in detail. Financing options generally considered available, however, are those presented below:

Types of Agency-Community Financing Options

<u>Regular Charges</u>	<u>Water Vending</u>
. Unmetered flat rates	
. Unmetered graded rates	<u>Community Cash-Raising</u>
. Mixed systems	. Voluntary funds
. Metered taps	. Community revenue
<u>Water Taxes</u>	. Community revolving funds
. Direct taxes	. Production cooperatives
. Indirect taxes	

This list of options was drawn by IRC (Ms C. van Wijk, 1987) and additional information is provided in Annex III for community-based piped supplies; some of these options are also applicable to other types of community-based supplies. Annex IV summarizes the main questions (and possible answers) for village-level decision-making on how to finance maintenance.

RESOURCES COVERAGE WORKSHEETSIntroduction

40. As the process of identification, quantification, sourcing and timing of inputs and resources required for successful WSS development is crucial for well-planned, well-executed projects, resources coverage worksheets have been developed and included as Annex V. The worksheets are founded on key elements considered basic "ingredients" to successful WSS projects. They can be adapted to local needs and requirements at hand -- modified as necessary, completed in preliminary or detailed fashion, or used as reminder checklists. They can be used by individuals, multi-disciplinary project teams, or working groups comprising representatives from involved parties at various points of the project cycle, e.g. during:

- ** Project Planning To identify and allocate resources and responsibilities necessary to achieve sustainability/extension of WSS facilities.
- ** Project Appraisal To check soundness of project design, specifically that resources and responsibilities required for achievement of sustainability/extension of WSS facilities have been adequately considered.
- ** Project Review To determine what is going right and wrong during project implementation, as well as identify required corrective actions and associated costs. Case studies can be prepared as an outcome of this activity.
- ** Project Evaluation To evaluate project success and performance.

Key Elements

41. The resources coverage sheets are based on proposed key elements -- 10 for sustainability of water supply and, similarly, 10 for extension of coverage of household sanitation.

Each key element is considered one of 10 essential building blocks that provide the foundation for functioning, well-utilized and benefit-yielding WSS facilities over the long-term. Importantly, each has responsibilities and costs attached to it -- responsibilities and costs that should be quantified, allocated, shared, and agreed to by development authorities (agencies) and project beneficiaries (communities, households).

The key elements for water supply and household sanitation are presented on the following two pages. In both cases, Elements No. 9 (Allocation of Responsibilities) and No. 10 (Execution of Responsibilities) relate to all preceding elements. For water supply, Elements No. 5 (Accepted Service Levels) and No. 6 (Appropriate Technology) imply that the Community is involved to a much greater degree than often currently the case in the decision-making/responsibility-taking process.

**KEY ELEMENTS OF
WATER SUPPLY SUSTAINABILITY**

No. 1 Community Institutions.

Strong Community institutions and administrative mechanisms -- community water/health committees, women's groups, functioning accounts and financial management systems, etc..

No. 2 Developed Skills.

All technical and non-technical Community/Agency skills required to successfully implement community-based management and resources coverage.

No. 3 Supportive Attitudes.

General human attitudes essential for successful achievement of sustainability and resources coverage -- understanding, motivation, choice, willingness to assume ownership, management and maintenance responsibilities, etc.

No. 4 Community Extension Services.

Important activities -- community organization, mobilization and participation, health education (both initial and ongoing), ongoing support, etc. -- initiated mainly by the Agency and outsiders.

No. 5 Accepted Service Levels.

Community understanding, acceptance, and agreement of levels of service and costs associated with water supply facilities being constructed -- continuity and reliability of supply, maintenance requirements, on-going costs, willingness to pay, etc.

No. 6 Appropriate Technology.

Water supply technology suitable to the given situation. Along with other technical/non-technical factors, willingness to pay should help determine technology choices.

No. 7 Operational Phase Inputs.

All required operational phase cash/in-kind inputs connected with provision of water supply at agreed-to service levels.

No. 8 O&M-Related Supportive Systems and Services.

Back-up systems and services provided on a timely basis by others outside the Community -- spare parts, special equipment, technical expertise to carry out major repairs, etc. This element includes Agency monitoring of actual system functioning and performance.

No. 9 Allocation of Responsibilities.

Formal decisions and allocation of responsibilities for Elements 1 through 8 between the Agency and the Community at the start of the project. A clear joint understanding, acceptance and agreement as to who is responsible for what, when.

No. 10 Execution of Responsibilities.

Timely execution of development and operational phase responsibilities as agreed to in Element No. 9.

**KEY ELEMENTS OF
EXTENDED LOW-COST SANITATION COVERAGE**

No. 1 Support of Community Institutions and Local Leaders.

Strong support for health improvement actions by recognized formal and informal Community leaders, which motivates Community members to take action.

No. 2 Created Awareness.

Awareness and reinforcement of beliefs amongst individuals and households concerning benefits of, and needs for, better hygiene and sanitation.

No. 3 Involvement of Women.

Communication with, and meaningful involvement of, women, who should be recognized as prime movers and family-unit opinion-formers for better hygiene and sanitation.

No. 4 Household Priority.

Genuine individual/household attitudes and desires to construct and use latrines. Priority implies willingness to contribute required cash and/or in-kind contributions.

No. 5 Examples of Low-Cost Sanitation Successes.

Positive promotional effects gained by having successful latrines projects to refer to, visit and learn from.

No. 6 Developed Skills.

All technical and non-technical skills required to successfully financially support, implement and sustain household sanitation schemes.

No. 7 Appropriate Technology.

On-site sanitation technology suitable to technical and socio-cultural conditions of the area. Affordability, acceptability, availability of materials, local soil conditions, locally-known construction techniques, etc. should be amongst criteria that influence technology choice.

No. 8 Community Extension Services.

Health-related activities -- health education, monitoring, support, etc. -- initiated, implemented and followed-up by public sector institutions.

No. 9 Allocation of Responsibilities.

Formal decisions and allocation of responsibilities for Elements 1 through 8 between all concerned parties at the start of the project. A clear joint understanding, acceptance and agreement as to who is responsible for what, when.

No. 10 Execution of Responsibilities.

Timely execution of development and operational phase responsibilities as agreed to in Element No. 9.

THE WORKSHEETS BRIEFLY EXPLAINED

(Refer to Annex V)

The resources coverage worksheets can be used as aids/tools to help develop overviews and assessments of, and establishment of responsibilities for, the required inputs for successful WSS projects. The worksheets are intended to encourage broad, integrated thinking to address the multi-disciplinary nature of WSS projects

WATER SUPPLY (Worksheets W.1, W.2-A and W.2-B)

- * Worksheet W.1, when completed, provides an overview of timing and ideal relative importance of required inputs (rather than efficiency). Columns A and B relate to Agency and Community inputs during the development phase of the project, whereas Columns C and D relate to Agency and Community inputs during the operational phase.
- * Worksheet W.2-A expands on Columns A and B of Worksheet W.1. When completed, it contains an itemized quantification of required cash/non-cash inputs to be provided by the Agency and the Community during the development phase of the project.
- * Worksheet W.2-B expands on Columns C and D of Worksheet W.1. When completed, it contains an itemized quantification of required cash/non-cash inputs to be provided by the Agency and the Community during the operational phase of the project.

HOUSEHOLD SANITATION (Worksheets H.1, H.2-A and H.2-B)

- * Worksheet H.1, when completed, provides an overview of timing and ideal relative importance of required inputs (rather than efficiency). Columns A and B relate to Agency, Community and Household inputs during the development phase of the project, whereas Columns C and D relate to Agency and Household inputs during the operational phase.
- * Worksheet H.2-A expands on Columns A and B of Worksheet H.1. When completed, it contains an itemized quantification of required cash/non-cash inputs to be provided by the Agency, the Community and the Household during the development phase of the project.
- * Worksheet H.2-B expands on Columns C and D of Worksheet H.1. When completed, it contains an itemized quantification of required cash/non-cash inputs to be provided by the Agency, the Community and the Household during the operational phase of the project.

Completion of Worksheets

42. When using the worksheets, several general points should be kept in mind:

- ** Key elements should be viewed in the context of the particular project and setting being considered. Definitions and worksheets can be modified freely as appropriate.
- ** One possible form of rating scale to indicate relative input/importance of input is suggested for use with Worksheets W.1 and H.1 (see Annex V); however, any other rating scale participants feel comfortable with can be used.

Two examples of completed worksheets are included in Annex VI.

- ** Worksheets W.2-A, W.2-B, H.2-A and H.2-B are intended for use to itemize and quantify required inputs. Entries should be as complete as possible, with units always being specified, e.g.:

. 120,000 US dollars	. 500,000 Indian rupees
. 2 man-months' time	. 15 trainees
. 1 lorry	. 500 litres diesel fuel

Possible types of Agency/Community cash requirements that might be encountered on a water supply project are itemized in Annex VII, for illustrative purposes.

Typical Applications

43. Examples of how resources coverage worksheets might be incorporated into WSS planning, appraisal and evaluation exercises are presented in Annex VIII. The procedures outlined for evaluation could also be used in development of cost recovery case studies.

FOLLOW-UP

44. The principles and models presented herein are considered as preliminary. At this point, they need to be field-tested, refined and modified as appropriate. In addition, expense/investment coverage case studies, with data and experiences translated into common bases for comparative purposes, should be developed. Suggested follow-up, with target dates, is presented in Annex II.

45. WHO, within its established international mandate for institutional development related to WSS sector activities, is a logical focal point for further promotional, support and coordinating efforts.

PRACTICAL USE OF RESOURCES COVERAGE FRAMEWORK

When several persons are involved in a resources coverage exercise using the worksheets, it is highly recommended to hold an initial orientation workshop, in which participants "talk through" key elements and clarify basic definitions and concepts beforehand.

Since some elements potentially overlap, this exercise will help minimize possible interpretational differences or misunderstandings later on. Also, it can help focus attention on necessary social mobilization and non-technical interventions to be included in the project.

For example, starting with Elements No. 1 and 2 for water supply, it may be appropriate to confirm that (a) everyone is in full agreement on what constitutes strong Community Institutions, and (b) what "Developed Skills" include.

Re. (a), it is suggested that a strong Community Institution is formal -- with legitimacy and permanent status -- and characterized by strong leadership, solid backing of its constituency (especially women), and capability to organize and carry out activities. How a strong institution is actually attained is a discussion worth initiating at this point, as it can illustrate how significant the Agency's and others' roles should be in helping create the environment that will foster and encourage community involvement.

Re. (b), it is suggested that the ranges and specific types of technical/non-technical skills the Agency and Community should possess to adequately carry out their responsibilities be identified and discussed, i.e.:

- . the Community should possess not only technical skills to carry out minor repairs and routine maintenance, but also leadership, administrative and financial management skills, and
- . the Agency should possess not only all necessary technical, administrative and management skills, but also have (or be able to draw upon) resource persons with appropriate social organization, extension work, communications, training, monitoring, follow-up, and review/evaluation skills.

A N N E X E S

- ANNEX I - Working Group on Cost Recovery in CWS
List of Members
- ANNEX II - Short-term Follow-up Plan
- ANNEX III - Financing Options for Piped Systems
- ANNEX IV - Main questions for Village Decision-Making
on Maintenance Financing
- ANNEX V - Sample Resources Coverage Worksheets
- ANNEX VI - Examples of Completed Worksheets W.1 and H.1
- ANNEX VII - Various Types of Cash Requirements
- ANNEX VIII - Typical Worksheet Applications

ANNEX I

WORKING GROUP ON COST RECOVERY IN CWS
LIST OF MEMBERS

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultation and in Study Group	Role in 4th Consultation
Mr M. Alvarinho Director National Water Supply and Sanitation Agency (UDAAS) Mozambique	Chairman of the Third Consultation Member, WG II	
Mr Enrique Angel Chief, Section Infrastructure Departamento Nacional de Planeacion (DNP) Columbia	Member of the First Consultation - Columbia Case Study	
Mr Arun Banerjee Senior Financial Analyst The World Bank Kenya		Member, WG II e
Mr Bernard Barandereka Directeur Général REGIDESO Burundi		Member, WG I f
Mr Peter K. Bemah Managing Director Liberia Water & Sewer Corporation Liberia		Member, WG I e
Mr Victor T. Bishay General Manager Planning, Monitoring and Central Statistics Alexandria Water General Authority Egypt		Member, WG I e
Dr Robert Boland Consultant International Labour Office (ILO) Switzerland	Member, WG II, Second Consultation (on behalf of ILO) Member, WG I, Third Consultation	
Dr Sergio Calegari Senior Sanitary Engineer Technical Dept., Infrastructure Africa Region World Bank U.S.A.		Member, WG I f

WG = working group; e = English-speaking f = French-speaking

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Mr C. Caprez Water Supply Project Manager Société Générale pour l'Industrie Switzerland	Member, WG I Second and Third Consultations	Member, WG I f
Mr S. Castrillon Consultant Mexico	Adviser First Consultation	
Mr Praphorn Charuchandr Senior Sanitary Specialist Health Department Ministry of Public Health Thailand		Member, WG II e
M. Jacques-Henri Chèze Ingénieur en Chef Section de l'Assainissement de Paris Direction de l'Eau et de la Propreté France		Rapporteur, WG II f
Mr Ian Cummings Senior Management Adviser International Labour Office (ILO) Management Development Branch Switzerland	Member, WG II, Second Consultation	
Mr Joaquim L.A. Evaristo da Silva Director Water Resources Department General Directorate for Natural Resources Portugal		Member, WG I e
M. Jean-Pierre Destin Directeur Général Service National d'Eau Potable (SNEP) Haiti		Chairman, WG II f
Mr Brendan Doyle Director of Pump Replacement Community Financed Pump Maintenance UNICEF UGANDA U.S.A.		Member, WG II e
Mr David Drucker Consultant France	Member, WG II Third Consultation	Member, WG II e

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
M. El Alaoui Directeur Adjoint Fonds d'Equipement Communal Morocco	Member of the First Consultation - Morocco Case Study	
M. El Filali Inspecteur Général Office National de l'Eau Potable (ONEP) Morocco	Member of the First Consultation - Morocco Case Study	
Dr Arpad Gerencsér Head, Water Supply & Sewerage Dept. Ministry for Environment & Water Management Hungary		Member, WG I e
Dr Wanchai Ghooprasert Assistant Governor Planning and Finance Provincial Waterworks Authority Thailand		Member, WG I e
Mr A. Goodman Director Coopers & Lybrand Associates Ltd. United Kingdom	Member, WG I, Third Consultation (on behalf of GTZ)	
Mr Alex Harleston Deputy Director Water Supply Division Sierra Leone	Member of the First Consultation - Sierra Leone Case Study	
Mr Armon Hartmann Head, Water & Sanitation Dev. Swiss Development Cooperation (SDC) Federal Dept. of Foreign Affairs Directorate of Dev. Cooperation Switzerland	Member, WG II Third Consultation	
Mr E. Helland Hansen Chief Engineer, Norad Adviser Norwegian Water Resources & Energy Administration (NVE) Norway	Member, WG II Third Consultation Chairman, Day I, Study Group	Member, WG II e
Mr Ibrahim Ider Chef du Service Commercial Société Nationale des Eaux (SNE) Niger		Member, WG I f

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Mr Hans-Rainer Jolowicz Senior Engineer RODECO Consulting GmbH. Fed. Rep. of Germany		Rapporteur, WG I e
Mr J.M. Kalbermatten Kalbermatten Associates Water and Wastes Management Advisory Services U.S.A.	Adviser, First Consultation	
Mr Tapio S. Katko Research Engineer Tampere University of Technology (TUT) Finland	Member, WG II, Second and Third Consultations - Rural CWS Issues Paper	Member, WG II e
Mr Laurent Krayenbühl Ecole Polytechnique de Lausanne Département du Génie Rural et Géomètres Switzerland	Member, WG II, Second and Third Consultations - Lesotho Case Study	
Mr R. Kühnle Rural Technologist Giteconsult Consulting Engineers Fed. Rep. of Germany	Member, WG II Third Consultation	
M. Abderrafih Lahlou Directeur Financier Office National de l'Eau Potable (ONEP) Morocco		Rapporteur, WG I f
Monsieur Hugues Le Masson Fondé de Pouvoir Caisse Centrale de Coopération Economique France		Member, WG I f
Mr A. Lencastre President Hydroprojecto Consulting Engineers Portugal	Member, WG I, Third Consultation	
Mr Lum Weng Kee Director Technical Services Ministry of Health Malaysia	Member of the First Consultation - Malaysia Case Study	

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Ms M. Miller Engineer SENAPA Peru		Member, WG I e
Dr G.E. Montrone, Director, Carlo Lotti é Associati S.p.a. Consulting Engineers Italy	Member, WG II, Second Consultation - Philippines Case Study	
Monsieur J.P. Mounier Directeur Général Centre de Formation Internationale à la Gestion des Ressources en Eau (CEFIGRE) France	Member, WG I, Third Consultation	Member, WG II f
Monsieur Rida Mourtada Président Directeur Général Etablissement Public des Eaux de Damas FIGEH Arab Republic of Syria		Chairman, WG I f
Mr A.T. Mnushipe Undersecretary, Ministry of Local Government, Rural and Urban Development Zimbabwe		Member, WG I e
Dr Ing. Uwe Neis Conseiller Ingénieur (GTZ) REGIDESO Burundi		Member, WG II f
Dr Dieter Nicolaisen Director PLANCO Consulting GmbH Fed. Rep. of Germany		Member, WG II e on behalf of GTZ
Mr Abdou Kalla Noura Chef du Service Etudes et Projets Société Nationale des Eaux (SNE) Niger		Member, WG I f
Dr Inyambo Liyambila Nyumbu Adviser, Department of Water Affairs Ministry of Water, Lands and Natural Resources Zambia		Member, WG II e

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Dr Mariyo Maruyawanda Nzuwah Permanent Secretary Ministry of Local Government, Rural and Urban Development Zimbabwe		Chairman of the Consultation Member, WG II e
Mr Yogendra Nath Ojha Additional Secretary Ministry of Housing and Physical Planning Nepal		Vice-Chairman of the Consultation Member, WG II e
Mr Florencio F. Padernal Project Director Dept. of Public Works & Highways Project Management Office for Rural Water Supply Philippines	Chairman, Second Consultation and Member, WG II - Presentation on Rural CWS in the Philippines	Chairman, WG II e
Dr Charles J. Pendley Sociologist/Training Coordinator Kampsax Krüger Rural Water Supply and Sanitation Project Sri Lanka	Chairman, WG II, Second Consultation Rural CWS Issues Paper - Sri Lanka Case Study	
Don Eladio Prado Executive President Agua y Alcantarillado (AYA) Costa Rica		Rapporteur General of the Consultation Member, WG I e
Mr R. Jessop Price Director John Taylor and Son (Consulting Engineers) United Kingdom	Member, WG II, Second Consultation - Malaysia Case Study	
Mr A. Rotival WHO/UNDP Coordinator Division of Environmental Health World Health Organization Switzerland	Member, WG II, Second and Third Consultations	Member, WG II e
Mr Michael Seager Programme Officer International Reference Centre for Community Water Supply and Sanitation (IRC/CWS) The Netherlands	Member, WG II Third Consultation Coordinator, Study Group	Member, WG II e
Mr Ramy Sela Directeur Rasel Technoservices Ivory Coast		Member, WG II f Presentation on Rural Water Supply in Ivory Coast

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Mr B.K. Shrestha Joint Secretary National Planning Commission Nepal	Member of the First Consultation - Nepal Case Study	
Dr E. Spreen Director Planco Consulting GmbH Fed. Rep. of Germany	Member of Study Group (on behalf of GTZ)	
Mr Malcolm T. Summerfield Economic and Financial Consultant United Kingdom	Chairman, WG I, Second Consultation Urban CWS Issues Paper - Kenya, Pakistan and Syria Case Studies	
M. Jean-Pierre Thevenon Conseiller financier Compagnie Générale des Eaux (CGE) France	Member, WG I, Second Consultation Chairman, WG I, Third Consultation - Burkina Faso Case Study	
Mr Christopher Timbrell Associate Director Coopers & Lybrand Management Consultants United Kingdom	Member of Study Group (on behalf of GTZ)	Member, WG II e
Dr Guenter Traut Conseiller économique et financier Service National de l'Eau Potable (SNEP) Haiti		Member, WG I f
Citoyen Tshongo Tshibinkubula Wa Tumba Président Délégué Général REGIDESO Zaire		Member, WG I f Presentation on urban water supply in Zaire
Mr Huigh Cornelis Van der Mandele Senior Economist IWACO Netherlands	Rapporteur, WG I Second and Third Consultations - Indonesia Case Study	Rapporteur General, WG I
Mr H.P.J. van Schaik Technical Advisory Unit Ministry of Foreign Affairs The Netherlands	Study Group	

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
<p>Ms Christine Van Wijk Research Officer International Reference Centre for Community Water Supply and Sanitation (IRC/CWS) The Netherlands</p>	<p>Member, WG I Second Consultation Member of Study Group - What Price Water? (used as background paper)</p>	
<p>Mr H. von Collenberg Economist Kreditanstalt für Wiederaufbau Fed. Rep. of Germany</p>	<p>Member, WG I, Third Consultation Chairman, Day 2 Study Group</p>	
<p>Dr J. Wallace Technology & Employment Branch International Labour Office (ILO) Switzerland</p>	<p>Member, WG I, Third Consultation - Public Utilities Management (background paper)</p>	
<p>Mr Clifford Wang Sanitary Engineer NORCONSULT A.S. Norway</p>	<p>Rapporteur, WG II, Second and Third Cons. Chairman, WG II, Third Consultation Rapporteur, Study Group - Tanzania Case Study</p>	<p>Rapporteur General, WG II</p>
<p>Mr Dennis B. Warner Engineer, Water & Sanitation Div. World Bank U.S.A.</p>	<p>Rapporteur, WG II Third Consultation Chairman, Day III, Study Group (on behalf of USAID) - Lesotho Case Study</p>	<p>Rapporteur, WG II (on behalf of World Bank)</p>
<p>Mr Douglas Wright Financial Consultant Thames Water International United Kingdom</p>		<p>Chairman, WG I e Presentation on Uganda</p>
<p>M. Dominique Wyss Consultant Water and Rural Development Switzerland</p>	<p>Member, WG I, Second Consultation - Malawi Case Study</p>	<p>Member, WG II f</p>
<p>Mr Faisal A.M. Al Atieh Al Zaoubi Director Financial & Administrative Affairs Directorate Water Authority of Jordan (WAJ) Ministry of Foreign Affairs and Irrigation Jordan</p>		<p>Member, WG I e</p>

Name/Function/Agency/Country	Roles in 1st, 2nd and 3rd Consultations and in Study Group	Role in 4th Consultation
Mr Cuthbert Zhakata Deputy Secretary Ministry of Energy and Water Resources Development Zimbabwe		Member, WG I e

Secretariat (WHO) - Fourth Consultation

Dr J.-P. Jardel, Assistant Director-General

Dr W. Kreisel, Director, EHE

Mr M.A. Acheson, Manager, CWS

Mr N. Carefoot, Sanitary Engineer, Human Resources Development, CWS

Mr A. Gundersen, Technical Officer, Human Resources Development, CWS

Mr A.P. Hirano, Sanitary Engineer, CWS, Facilitator WG I and WG II (English)

Mr J. Hueb, Sanitary Engineer, Operation and Maintenance, CWS

Mr P. Koenig, Economist, CWS, Facilitator WG I and WG II (French)

Mr L. Laugeri, Financial Analyst, CWS, Secretary of the Consultation

Ms A. Petren, Technical Officer, Human Resources Development, CWS

Mrs I. Bartholomeau, Secretary, CWS

External Reviewers*

Mr S. Ettinger, Senior Economist, World Bank

Mr M. Garn, Senior Economist, World Bank

* Although the World Bank is not a co-author of this document, several World Bank staff members have provided useful comments which have facilitated the finalization of Volumes I and II of the Report.

SHORT-TERM FOLLOW-UP PLAN

ANNEX II

PHASE I - Initial presentation and dissemination of results of the Fourth Consultation, including preliminary versions of the Reports.

<u>Activity</u>	<u>Agencies</u>	<u>Date</u>
- Marrakech Workshop for Union Africaine des Distributeurs d'Eau	WHO EDI/CEFIGRE	December 1988
- IWSA Symposium on Cost and Price of Water in Urban Areas - Paris	WHO IWSA	December 1988
- Broadcast by the World of Health radio information programme	WHO	Dec.-Jan. 1988
- Staff Seminar on Health Economics WHO, Geneva (Switzerland)	WHO	December 1988
- Philippines national workshop	Philippines	March 1989
- Mongu (Zambia) intercountry workshop (Malawi, Zambia, Zimbabwe)	NORAD/IRC	Jan.-Feb. 1989
- Malawi (National Workshop, Case Studies)	The Netherlands	Aug. 1989
- Rabat (Morocco) intercountry workshop (9 English-speaking countries)	WHO/EMRO	Feb.-Mar. 1989
- Rwanda national seminar	WBk/UNDP/WHO/IRC	May 1989
- Ethiopia national seminar	WBk/UNDP/WHO/IRC	to be determined
- Rabat (Morocco) seminar (rural)	ANAFID/WHO	March 1989
- Bangkok (Thailand) intercountry seminar	CEFIGRE/WHO	April 1989
- Malaysia national seminar	WHO/PEPAS	May 89 - March 90
- Portugal national seminar	WHO/EURO	October 1989
- Intercountry workshop for West African countries	GTZ/WHO	to be determined

PHASE II - Field Work and Publications

<u>Activity</u>	<u>Organizing Agencies</u>	<u>Dates</u>
- Planning meeting - The Hague (The Netherlands) - selection of field test areas - preparation of terms of reference - calendar of activities - documents	IRC/WHO/Financing Agencies	July 1989
- Country activities	Government Agencies/IRC/ Financing Agencies /WHO	Jan-Dec 1989

PHASE II - Field Work and Publications (cont'd)

<u>Activity</u>	<u>Organizing Agencies</u>	<u>Dates</u>
- Finalization of the Report	WHO	July 1989
- Publication of the Report	WHO	Oct. 1989
- Presentation of a Manual (summary)	WHO	Nov. 1989
- Publication of a manual with case studies (if possible)	WHO	June 1990

PHASE III - Full-Scale Field Use of Manual (or other final document)

Types of activities

- | | |
|-------------------------------|--|
| - Seminars and Workshops | - Support to CWS institutional development |
| - Case Studies | - Project Planning and Appraisal |
| - Publications, Presentations | - Support to Project Preparation |
| - Promotion | - Financial Studies |

Current Issues in Various Countries and Regions

- Volume I (agencies) - Nearly all countries listed below have indicated the existence or the current preparation of an urban water supply master plan with financial components.

- Burundi - tariffs, sanitation tax, public standposts' management;
- Costa Rica - private supplies (industry);
- Ivory Coast - transition from wells to piped supplies;
- Jordan - metering, unaccounted-for water;
- Malaysia - sewerage tariffs, privatization;
- Morocco - tariffs in secondary centres;
- Niger - tariffs, maintenance costs;
- Syria - cost of water in urban areas;
- Zaire - motivation to pay in urban poor areas.

- Volume II (communities) - The objective is to test the frameworks and assess the acceptability of the guiding principles.

- Morocco = rural water supply (ANAFID)
- Philippines = rural water supply
- Rwanda = rural sanitation
- Uganda = handpump maintenance
- Zaire = Cost recovery in rural areas
- Zimbabwe = rural CWS

- Volumes I and II (intercountry workshops and seminars)

- Africa = Union Africaine des Distributeurs d'Eau (UADE) = EDI/CEFIGRE workshop, Marrakech (Morocco), December 1988
- Malawi-Zambia-Zimbabwe = NORAD/IRC workshop, Jan.-Feb. 1989
- West Africa = GTZ/WHO workshop, May-June 1989
- International Water Supply Association = Paris Symposium, Dec. 1988
- South-East Asia = CEFIGRE workshop, Bangkok, April 1989
- Malaysia and Western Pacific = PEPAS seminar, Kuala Lumpur, May 1989

FINANCING OPTIONS FOR PIPED SYSTEMS

(Source: "What Price Water? User Participation in Paying for Community-Based Water Supply", by Christine van Wijk-Sijbesma (IRC Water and Sanitation Centre Occasional Paper Series, The Hague, March 1987.)

<u>What?</u>	<u>When?</u>	<u>What for?</u>	<u>Who organizes?</u>	<u>How?</u>
voluntary funds	in communities with a tradition of fund-raising, seasonal income, and a good knowledge and control of payments according to household capacity and benefits	financial contributions to construction; occasional larger contributions to maintenance and repair of simple systems with public water points	traditional leadership, voluntary organizations, e.g. women's groups, tap organizations	targets are set and funds collected periodically through meetings, house-to-house collections, bazars, etc. Funds are collected in advance or when required
general community	in communities with own sources of income and a water supply with public facilities	annual maintenance and repair, financial contributions to construction; depreciation and expansion where possible	local government, community water committee or subcommittee	reservation of funds based on the estimated costs and net annual income of the community; cost-reduction or income generation where necessary
cooperative funds	water supply initiated and financed through production cooperative or village revolving fund; no direct payments for water used	annual maintenance and repairs; repayment of construction loan; depreciation and expansion where possible	cooperative's executive committee, community water committee or subcommittee	reservation of funds based on estimated costs and income from cooperative ventures and/or member fees; cost-reduction or income generation where necessary
flat rates	families have private taps, or share taps with well-defined social group, have fairly reliable incomes, and benefit more or less equally	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	water committee or subcommittee, board of water users cooperative, local government, tap users' committee	project agency advises on rate for approval by users; rates are collected and administered by the local water organization
graded rates	in communities with appreciable differences in water use and benefits and sufficient community spirit to divide user households into different payment categories	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	community water organization with support from promoters or other social experts assisting the project agency	private tap owners are classified in high and low categories, using local indicators of water use and wealth; users sharing taps may pay lower or equivalent individual rate
mixed systems	in communities with large differences in payment capacity and water use, with high and low-income households living in separate sections	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	water agency with community water committee or subcommittee	surpluses or private taps are used to finance the costs of free public taps in poorer sections
water metering	in large communities with limited water resources and an efficient administration	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	water agency and/or community water organization	meter reading, billing and rate collecting by separate workers, or payment through banks, at central government offices or local branches
vending instead of a piped distribution network	in communities where a socially valuable vending system can be improved, where other solutions are technically, economically or politically impossible	contribution towards financing of the recurrent costs of the agency, and financing of vendor service costs, including upkeep of hygiene and simple repair	water agency paid operators, women's groups of water sellers' cooperative	water is sold from metered taps at controlled prices, when buying prices are subsidized, selling prices may equal private rates, the difference forming the vendors' income
vending as part of a piped distribution network	in communities where group connections or cross subsidies between private and public taps have not worked	contribution towards financing of the recurrence costs of public taps and the service of the vendors, including upkeep of hygiene and simple repairs	water agency paid operators or socio-economically appropriate concessionaires, e.g. women heads of households	
coin-operated taps	not recommended because of their great sensitivity to breakdown and interference			
direct or indirect water taxes	in communities where the transfer of sufficient funds to the water organization is assured and taxation can be related to water use and costs	annual maintenance and repair; repayment of construction loan; depreciation and expansion where possible	local government service organization for a specific area, e.g. a low-cost housing scheme	taxes are used exclusively for financing one or several basic services, categories of payment are based on level of service or housing conditions

ANNEX IV

MAIN QUESTIONS FOR VILLAGE DECISION-MAKING
ON MAINTENANCE FINANCING

<i>Questions for discussion</i>	<i>Options open to the village</i>
What costs to budget for?	Remuneration of Scheme Attendants Tools and spare parts for repairs Replacement of handpumps Extension of the system
What funds to use?	Village funds Voluntary contributions Regular user payments
What rates to set?	Flat rate (all pay the same) Weighted (according to benefit/payment capacity)
How to collect money?	Fund raising on breakdown Taking money from a village fund Reserving part of village funds to establish a separate water fund Regular collection of household contributions
When to collect?	Monthly At the beginning of the financial year After harvest
Who collects?	Village water committee Handpump user group Community leaders
How to keep the money?	Village account Water account Who signs?
How to administer the funds?	Receipts for book-keeping Financial control User feedback
Who to administer the funds?	Village water committee Village accountant
How to pay the caretakers and/or area mechanics?	Per job Per month Per year after harvest In cash/kind

Source - Handpumps: Issues and Concepts in Rural Water Supply Programmes, IRC Water and Sanitation Centre, Technical Paper No. 25, The Hague, 1988.

OPEN RESOURCES COVERAGE WORKSHEETSOVERVIEW AND ASSESSMENT WORKSHEETS FOR REQUIRED INPUTS
FOR WATER SUPPLY AND HOUSEHOLD SANITATION PROJECTSTable W.1 Overview of Inputs Required for Water Supply Project.

Key Element	<u>DEVELOPMENT PHASE</u>		<u>OPERATIONAL PHASE</u>	
	Agency	Community	Agency	Community
	: A	: B	: C	: D
1 Community institutions	:	:	:	:
2 Developed Skills	:	:	:	:
3 Supportive Attitudes	:	:	:	:
4 Community Extension Services	:	:	:	:
5 Accepted Service Levels	:	:	:	:
6 Appropriate Technology	:	:	:	:
7 Operational Phase Inputs	:	:	:	:
8 O&M Support Systems & Services	:	:	:	:
9 Allocation of Responsibilities	:	:	:	:
10 Execution of Responsibilities	:	:	:	:

Table H.1 Overview of Inputs Required for Household Sanitation Project.

Key Element	<u>DEVELOPMENT PHASE</u>		<u>OPERATIONAL PHASE</u>	
	Agency	Household	Agency	Household
	: A	: B	: C	: D
1 Support of Local Leaders	:	:	:	:
2 Created Awareness	:	:	:	:
3 Involvement of Women	:	:	:	:
4 Household Priority	:	:	:	:
5 Examples of previous Successes	:	:	:	:
6 Developed Skills	:	:	:	:
7 Appropriate Technology	:	:	:	:
8 Community Extension Services	:	:	:	:
9 Allocation of Responsibilities	:	:	:	:
10 Execution of Responsibilities	:	:	:	:

SUGGESTED RATING SCALE FOR USE WITH ABOVE TABLES (W.1 AND H.1)

- " - " = Lower end of scale -- relatively little/no input required.
 " *** " = Upper end of scale -- relatively great/important input required.
 " * " = Value in-between
 " ** " = - d.o -

Table W.2-A Assessment of Inputs Required for Water Supply Project.
(expands on columns A and B of Table W.1, see notes below)

<u>Water Supply</u>				<u>REQUIRED DEVELOPMENT PHASE INPUT</u>				
<u>AGENCY</u>				Key Element	<u>COMMUNITY</u>			
Cash	:Time*	:Labour	:Matls:		:Cash	:Time*	:Labour	:Matls
:	:	:	:	1 Community Institutions	:	:	:	:
:	:	:	:	2 Developed Skills	:	:	:	:
:	:	:	:	3 Supportive Attitudes	:	:	:	:
:	:	:	:	4 Community Ext. Services	:	:	:	:
:	:	:	:	5 Accepted Service Levels	:	:	:	:
:	:	:	:	6 Appropriate Technology	:	:	:	:
:	:	:	:	7 Operational Phase Inputs:	:	:	:	:
:	:	:	:	8 O&M Support & Services	:	:	:	:
:	:	:	:	9 Allocat. of Responsib.	:	:	:	:
:	:	:	:	10 Execution of Responsib.	:	:	:	:
-----				-----				
				<= Totals (incl. all units) =>				

Table W.2-B Assessment of Inputs Required for Water Supply Project
(expands on columns C and D of Table W.1, see notes below).

<u>Water Supply</u>				<u>REQUIRED OPERATIONAL PHASE INPUT</u>				
<u>AGENCY</u>				Key Element	<u>COMMUNITY</u>			
Cash	:Time*	:Labour	:Matls:		:Cash	:Time*	:Labour	:Matls
:	:	:	:	1 Community Institutions	:	:	:	:
:	:	:	:	2 Developed Skills	:	:	:	:
:	:	:	:	3 Supportive Attitudes	:	:	:	:
:	:	:	:	4 Community Ext. Services	:	:	:	:
:	:	:	:	5 Accepted Service Levels	:	:	:	:
:	:	:	:	6 Appropriate Technology	:	:	:	:
:	:	:	:	7 Operational Phase Inputs:	:	:	:	:
:	:	:	:	8 O&M Support & Services	:	:	:	:
:	:	:	:	9 Allocat. of Responsib.	:	:	:	:
:	:	:	:	10 Execution of Responsib.	:	:	:	:
-----				-----				
				<= Totals (incl. all units) =>				

NOTES

- "Time*" means all time not otherwise included under "labour" -- time for communications, organization, planning, implementation, supervision, education, follow-up, accounts management, reporting, etc. Together, "Time*" + "Labour" = 100% of all time required.
- "Matls" means supplies, equipment, materials, parts, transport, fuel, etc.
- "Cash" should be broken down into local and foreign currency components as appropriate.
- On the Agency side, there are cost and budgetary implications associated with "Time*", "Labour" and "Matls" inputs, as well as "Cash". The Agency's budgetary requirements can be determined by translating inputs into costs.

Table H.2-A Assessment of Inputs Required for Household Sanitation Project
(expands on columns A and B of Table H.1, see notes below).

<u>Sanitation</u>				REQUIRED DEVELOPMENT PHASE INPUT				
<u>AGENCY</u>				Key Element	<u>COMMUNITY</u>			
Cash	:Time*	:Labour	:Matls:		:Cash	:Time*	:Labour	:Matls
:	:	:	:	1 Support of Local Leaders:	:	:	:	
:	:	:	:	2 Created Awareness	:	:	:	
:	:	:	:	3 Involvement of Women	:	:	:	
:	:	:	:	4 Household Priority	:	:	:	
:	:	:	:	5 Examples of Successes	:	:	:	
:	:	:	:	6 Developed Skills	:	:	:	
:	:	:	:	7 Appropriate Technology	:	:	:	
:	:	:	:	8 Community Ext. Services	:	:	:	
:	:	:	:	9 Allocat. of Responsib.	:	:	:	
:	:	:	:	:10 Execution of Responsib.	:	:	:	
-----				-----				
<- Totals (incl. all units) =>								

Table H.2-B Assessment of Inputs Required for Household Sanitation Project
(expands on columns C and D of Table H.1, see notes below).

<u>Sanitation</u>				REQUIRED OPERATIONAL PHASE INPUT				
<u>AGENCY</u>				Key Element	<u>COMMUNITY</u>			
Cash	:Time*	:Labour	:Matls:		:Cash	:Time*	:Labour	:Matls
:	:	:	:	1 Support of Local Leaders:	:	:	:	
:	:	:	:	2 Created Awareness	:	:	:	
:	:	:	:	3 Involvement of Women	:	:	:	
:	:	:	:	4 Household Priority	:	:	:	
:	:	:	:	5 Examples of Successes	:	:	:	
:	:	:	:	6 Developed Skills	:	:	:	
:	:	:	:	7 Appropriate Technology	:	:	:	
:	:	:	:	8 Community Ext. Services	:	:	:	
:	:	:	:	9 Allocat. of Responsib.	:	:	:	
:	:	:	:	:10 Execution of Responsib.	:	:	:	
-----				-----				
<- Totals (incl. all units) =>								

NOTES

- "Time*" means all time not otherwise included under "labour" -- time for communications, organization, planning, implementation, supervision, education, follow-up, accounts management, reporting, etc.
Together, "Time*" + "Labour" = 100% of all time required.
- "Matls" means supplies, equipment, materials, parts, transport, fuel, etc.
- "Cash" should be broken down into local and foreign currency components as appropriate.
- On the Agency side, there are cost and budgetary implications associated with "Time*", "Labour" and "Matls" inputs, as well as "Cash". The Agency's budgetary requirements can be determined by translating inputs into costs.

ANNEX VI

EXAMPLES OF COMPLETED WORKSHEETS W.1 AND H.1

NB: FOR ILLUSTRATIVE PURPOSES ONLY. RATINGS VARY BY PROJECT.

Table W.1 Overview of Inputs Required for Water Supply Project.

Key Element	<u>Water Supply</u>			
	DEVELOPMENT PHASE		OPERATIONAL PHASE	
	Agency : A	Community : B	Agency : C	Community : D
1 Community institutions	: ***	: **	: *	: **
2 Developed Skills	: ***	: *	: *	: **
3 Supportive Attitudes	: ***	: **	: -	: *
4 Community Extension Services	: **	: *	: *	: *
5 Accepted Service Levels	: **	: **	: -	: -
6 Appropriate Technology	: **	: **	: -	: -
7 Operational Phase Inputs	: -	: -	: -	: ***
8 O&M Support Systems & Services	: **	: -	: *	: **
9 Allocation of Responsibilities	: *	: *	: -	: -
10 Execution of Responsibilities	: ***	: *	: *	: ***

Table H.1 Overview of Inputs Required for Household Sanitation Project.

Key Element	<u>Household Sanitation</u>			
	DEVELOPMENT PHASE		OPERATIONAL PHASE	
	Agency : A	Household : B	Agency : C	Household : D
1 Support of Local Leaders	: ***	: *	: *	: *
2 Created Awareness	: **	: *	: *	: *
3 Involvement of Women	: **	: **	: *	: *
4 Household Priority	: **	: *	: -	: *
5 Examples of previous Successes	: *	: *	: *	: -
6 Developed Skills	: **	: **	: -	: -
7 Appropriate Technology	: ***	: *	: -	: -
8 Community Extension Services	: **	: *	: **	: *
9 Allocation of Responsibilities	: *	: *	: -	: -
10 Execution of Responsibilities	: **	: ***	: *	: ***

RATING SCALE USED ON ABOVE TABLES (W.1 AND H.1)

- " - " = Lower end of scale -- relatively little/no input required.
 " *** " = Upper end of scale -- relatively great/important input required.
 " * " = Value in-between
 " ** " = - d.o -

EXAMPLES OF CASH REQUIREMENTS

With reference to Annex V, Tables W.2-A and W.2-B, for illustrative purposes, a number of possible types of cash needs during development/operation of a "typical" community-managed water supply project are listed below. These are typical expenses that might be identified in the Agency or Community "Cash" columns, and for which cash must be readily available when needed.

DEVELOPMENT PHASE CASH REQUIREMENTS

Agency

- * Key Element No.2 Travel and subsistence expenses, facilities, training materials, supplies, etc.
- * Key Element No.10 Contracting of casual labour and/or local contractors, compensation for lands, crops, rights-of-way, etc.

Community

- * Key Element No.10 Capital contributions, revolving fund payments, initial contributions to O&M fund, etc.

OPERATIONAL PHASE CASH REQUIREMENTS

Agency

- * Key Element No.8 Contracting of casual labour and/or local contractors for major repairs, etc.

Community

- * Key Element No.1 Travel and subsistence expenses, stationary, office supplies, remuneration to committee members for special services, insurance, etc.
- * Key Element No.2 Travel and subsistence expenses, hand tools for training purposes, other training materials, etc.
- * Key Element No.7 Contributions to replacement fund, operator salaries, spares and replacement parts, fuel, lubricants, chemicals, utilities, transport, tools, etc.
- * Key Element No.8 Payments to Agency for provision of required services, technical assistance from private sector, etc.
- * Key Element No.10 Debt service, etc.

ANNEX VIII

TYPICAL WORKSHEET APPLICATIONS

Agency-Community Planning Exercise

- Step 1 Agency and Community review Government's cost recovery policies.
- Step 2 Agency and Community jointly allocate responsibilities on preliminary basis using Table W.1 for water supply (or Table H.1 for household sanitation).
- Step 3 Agency prepares preliminary technical design for project.
- Step 4 Agency prepares preliminary estimate of its required inputs using Tables W.2-A and W.2-B for water supply (or Tables H.2-A and H.2-B for household sanitation).
- Step 5 Agency and Community discuss required Community inputs together, and prepare preliminary cost estimates for required inputs using Tables W.2-A and W.2-B for water supply (or Tables H.2-A and H.2-B for household sanitation).
- Step 6 Steps 2 through 5 are repeated until Agency-Community agreement is reached.

Appraisal Exercise

- Step 1 Appraisal Mission reviews project plan using Table W.1 for water supply (or Table H.1 for household sanitation), checking that required Agency-Community inputs are identified.
- Step 2 Mission prepares own outline estimates of Agency-Community inputs using Tables W.2-A and W.2-B for water supply (or Tables H.2-A and H.2-B for household sanitation), as rough check, and compares these against project proposal.
- Step 3 Where significant discrepancies, weakly-defined areas, etc. are identified, Mission reports findings to responsible authorities for necessary corrective/follow-up actions.

Evaluation Exercise

- Step 1 Evaluation Team reviews original project documents, checking originally-defined objectives and activities against Key Elements of Water Supply Sustainability and Table W.1 (or Key Elements for Extended Low-Cost Sanitation and Table H.1).
- Step 2 Using Tables W.2-A and W.2-B for water supply (or Tables H.2-A and H.2-B for household sanitation), Team identifies which key elements have been successfully achieved, and which have failed; which required inputs have been successfully provided, and which have not.
- Step 3 Where improvements are necessary, Team identifies what needs to be done by whom, and recommends required remedial actions to those concerned.