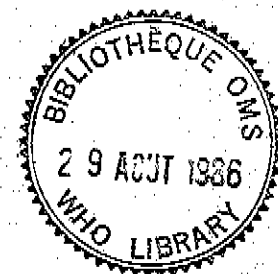




WORLD HEALTH ORGANIZATION
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**GUIDING PRINCIPLES
FOR NATIONAL MONITORING
OF THE WATER SUPPLY
AND SANITATION SECTOR**

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

June 1986



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTE

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*Water supply
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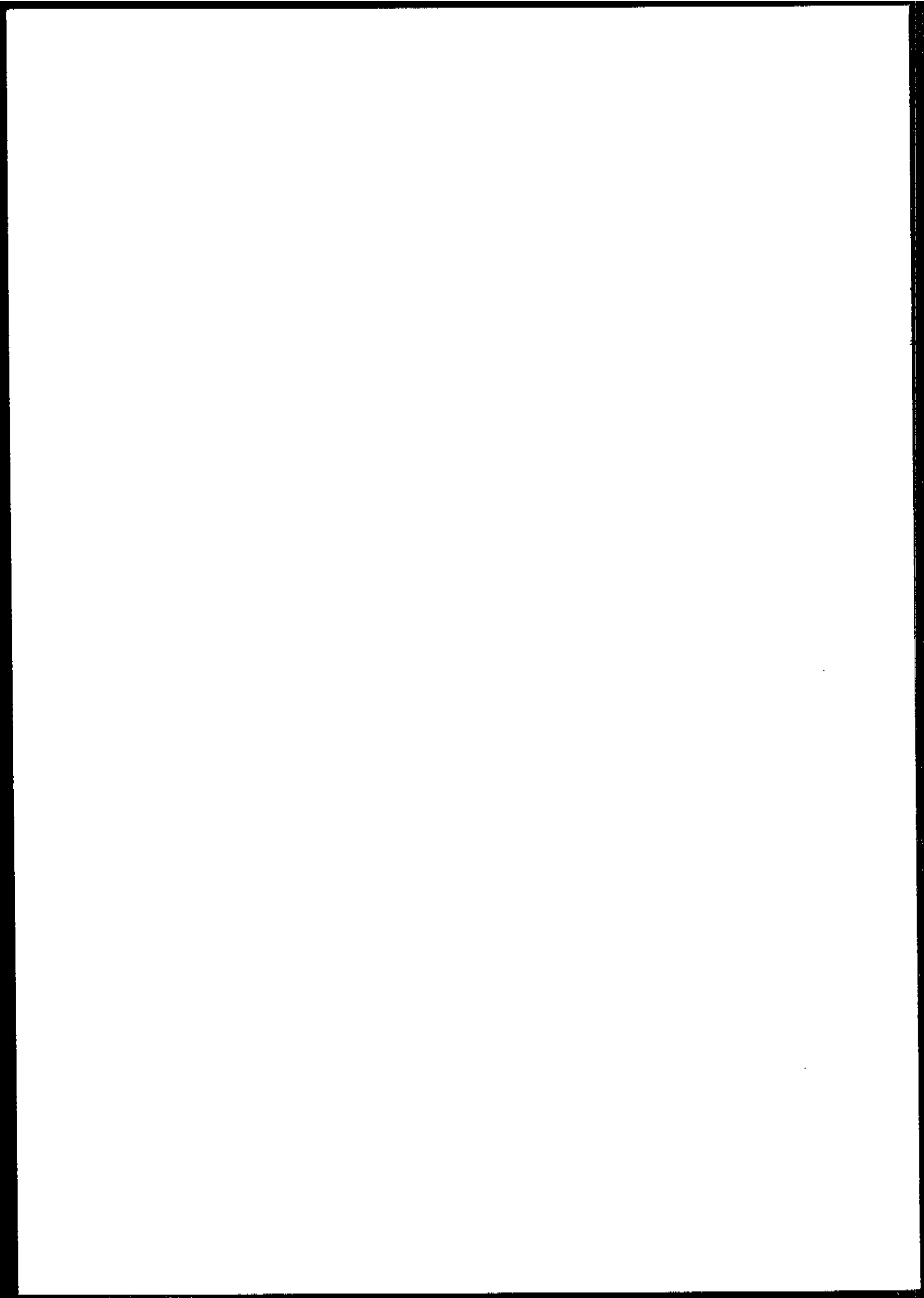
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GUIDING PRINCIPLES FOR NATIONAL MONITORING OF THE
WATER SUPPLY AND SANITATION SECTOR

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1

PREFACE

These guiding principles are designed to assist national authorities in creating and maintaining a regular mechanism for monitoring the Water Supply and Sanitation (WSS) sector. The need for such a mechanism at the national level became apparent during the global monitoring exercise, carried out by WHO, of the International Drinking Water Supply and Sanitation Decade (IDWSSD). A guide to global monitoring and its relationship to national monitoring, published in 1982,^{1/} stressed the importance of national monitoring for effective sector management and of central guidance on the type of information to be provided by sector agencies.

While it would be impossible to devise a blue-print for a monitoring system with universal application, the suggested guidelines are flexible enough to be applied in the context of a formal sector development plan to harmonize reporting mechanisms and strengthen information bases, or simply to monitor sector performance and progress. To be relevant for countries at different stages of development, three levels of information detail are proposed, ranging from minimum to more sophisticated primary indicators of sector performance. These guidelines will shortly be field-tested and subsequently finalized.

Complementary information systems for water supply and sanitation service management have been developed, and are being implemented in the American Region and the South-East Asian Region of WHO^{2/}.

^{1/} International Drinking Water Supply and Sanitation Decade, National and Global Monitoring of Water Supply and Sanitation, Publication No. 2, October 1982.

^{2/} International Drinking Water Supply and Sanitation Decade. Information System for Evaluation and Monitoring of Water Supply and Sanitation Plans, October 1984, PAHO/WHO, Washington, D.C; and Management Information for Water Supply Organization, Guidelines for Computerization DANIDA/WHO - SEARO Research Report No. 17, New Delhi, 1985.

PART I: THE ROLE OF MONITORING

A. Introduction

At the United Nations Water Conference at Mar del Plata in March 1977, Member States declared the period 1981-1990 as the International Drinking Water Supply and Sanitation Decade (IDWSSD). In 1981, the World Health Assembly decided on the following guidelines for meeting IDWSSD objectives:

- complementarity of sanitation and water supply development
- focus on both rural and urban under-served populations in policies and programmes
- achievement of full coverage through replicable, self-reliant and self-sustaining programmes
- use of socially relevant systems and appropriate technology
- community participation at all stages of programmes and projects
- establishment of close linkages between programmes in water supply and sanitation and other sectors, in particular, health programmes.

The ideal vehicle for coordinating the development of water supply and sanitation (WSS) is a national sector development plan. It should have well-defined objectives and targets and formulate the necessary implementation programmes on the basis of information generated by the responsible sector agencies. This allows decision makers to manage the sector efficiently and facilitates the timely allocation of resources. In the absence of a reliable information system, national authorities are deprived of an essential management tool for planning, evaluating and adjusting their programmes and for securing external technical and financial cooperation.

In practice, the collection of data on WSS is a complex task because of the many agencies involved in the planning, construction and operation of sector facilities. Added to which, the range of inquiry has broadened in recent years to include information on Decade and national planning targets and other related objectives. A review of national baseline data as of end-1980^{1/}, carried out within the context of global sector monitoring, revealed the inherent difficulties, in that quite a number of countries either misinterpreted questions on the questionnaires or failed to answer them, figures provided were inconsistent and wide variations in unit construction costs emerged even for countries with similar socioeconomic and climatic situations. It is hoped that the present guidelines will go a long way towards improving national monitoring and, necessarily, global monitoring.

The guidelines are structured the following way. The remaining section of Part I discusses the basic mechanism and the objectives of national monitoring. Part II suggests how the monitoring system can be set up. Part III describes the method of collection and analysis of data and should be read together with Part IV - Schematic Sector Profile. The scheme consists of a comprehensive list of sector information requirements in ascending order of complexity upon which countries can pattern a monitoring system that suits the level of development of the sector and their priorities.

^{1/} Review of National Baseline Data (as at end-1980), WHO Offset Publication No. 85, Geneva, 1984.

B. National Monitoring Objectives

Depending on the governmental and administrative divisions in a country, national monitoring is based on information that originates at peripheral levels, passes through various intermediate levels such as districts, provinces, regions or states, and arrives at the central level in an appropriately condensed form. The information required is less detailed than that for project monitoring, but it comes from more sources, making uniformity of reporting a prerequisite for processing, analysing and monitoring sector indicators. Central guidance on the type of information to be furnished by the various administrative units and sector agencies is essential for effective monitoring at the national level.

Objectives

A national monitoring system for WSS will serve country-specific purposes but should include the following general aims:

- to improve the foundation for planning
- to integrate the WSS sector in the overall development effort of the country
- to verify progress towards set targets, identify constraints and adjust targets to realities
- to influence resource allocation towards sector needs
- to detect and re-appraise high cost WSS sector programmes and projects
- to assess community benefits, in particular, health benefits
- to disseminate sector information to government officials, external support agencies, and the general population.

Annual executive sector reports should consolidate monitoring results by summarizing the current status, past performance, and perspectives of the sector. In addition, they should contain a comparison of targets and achievements leading to adjustments in the implementation process or in the targets, if necessary.

PART II: ESTABLISHMENT OF THE MONITORING SYSTEM

In keeping with the requirements for simplicity and flexibility, the proposed approach to monitoring organizes information in a three-tiered system consisting of: levels of detail, levels of aggregation and information categories. Levels of detail refer to stock taking of the sector, levels of aggregation deal with the accumulation of data at information centres, administrative units and sector agencies, and the proposed information categories have been devised to facilitate uniform reporting and easy data processing.

A. Information Structure

Levels of Detail

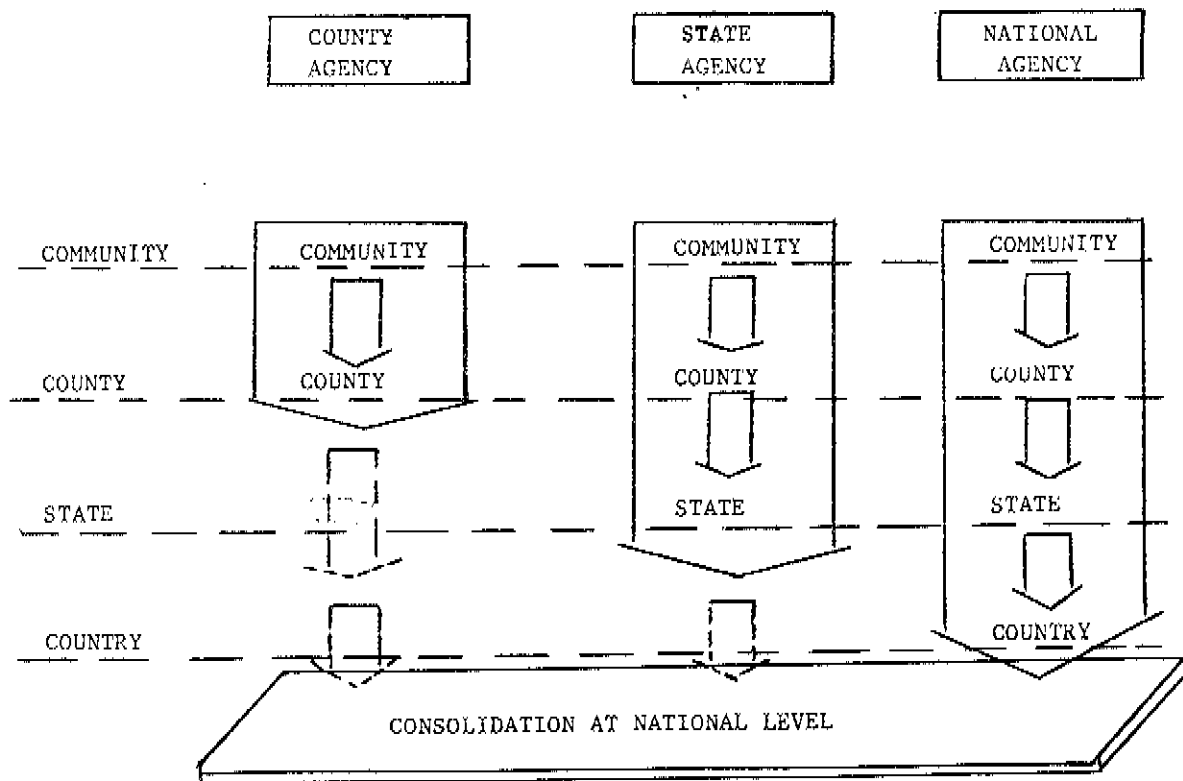
There are three levels of detail, which correspond to the minimum, intermediate, and higher levels of information necessary to assess the status of the sector, depending on the degree of its development. At the first level, the information requested constitutes the bare minimum needed to evaluate sector performance. The second and third levels simply require more information on the same item, revealing a more advanced sector situation. A country can choose the level most appropriate to its condition. In some cases, different levels of detail may be used simultaneously. For example, a country may utilize the highest level of detail to monitor the WSS sector in the major cities, the intermediate level for the remaining urban areas, and

the lowest level for the rural areas. For the various levels of detail, the data collected will vary in quality and reliability. Thus, at the first level, data may not be available, and will have to be obtained through sample surveys or estimates; whereas at higher levels, data obtained will depict the existing situation more accurately. The proposed levels of detail are compatible with each other, since information at a higher level includes all information obtained at a lower level. Advancing from a lower to a higher level of detail over a given period of time can, therefore, be a target for improving the sector information base, and will constitute a direct measure of institutional and managerial progress.

Levels of Aggregation

The monitoring system should provide sector information on a community, county, state or region, and arrive at an aggregation that covers the entire country (see Figure 1). Data collection and retrieval methods can range from simple to complex, depending on the state of development as well as the level of detail desired. However, the procedures selected must be applied by all sector agencies with uniformity and consistency to permit aggregation.

Figure 1



1/ See Schematic Sector Profile, p. .

Given that administrative subdivisions vary among countries, it is important for each country to identify the information sources for the national monitoring system in accordance with existing centres of authority or decision-making and to adapt the following definitions accordingly:

- (a) Community. The basic administrative unit regardless of the number of inhabitants, for example, refers to the area covered by a city council, town council, or rural district.
- (b) County. A geographic area with local government, containing a few communities, as well as dispersed population. Usually a county authority enjoys significant autonomy.
- (c) State. A territory composed of a group of counties. Generally, state governments have great autonomy and exert authority over local government. They are decision centres and, consequently, information centres.
- (d) Country. A territory over which the national government has jurisdiction. For monitoring purposes, a national ministry or decentralized agency is the source of information at the central level. A separate reporting mechanism on sector activities needs to be established (or reinforced) to enable information aggregation on a horizontal scale.

Information Categories

One of the best and cheapest sources of information for the WSS sector is the national census, especially if it contains information on housing. Sector authorities should collaborate with census officials to have important questions pertaining to the WSS sector, such as coverage, included in the census questionnaire. Since a census is normally conducted every 10 years, trend analysis should be used for projections.

Other government agencies and ministries also have valuable information for the WSS sector. They include the ministries of health, interior, education, energy and agriculture, and agencies responsible for national planning, housing, urban development and land distribution.

To facilitate data processing, it is convenient to classify information into four main categories, namely, General, Institutional, Existing Services, and Development of Services.

- (a) General Information - is relevant to the WSS sector (area, population, demographic growth rate, GNP), but not necessarily produced or used exclusively by the sector.
- (b) Institutional Information - is specific to the sector and its agencies (scope of agency responsibility, financing, human resources), and is generated within the sector;
- (c) Information on Existing Services - pertains to operation and management of existing facilities (service coverage, operational costs).
- (d) Information on Development of Services - refers to sector growth, extension of services, increases in coverage, and capital investment programmes (targets, plans, service upgrading, etc.).

These categories are discussed further in Part III and the schematic sector profile.

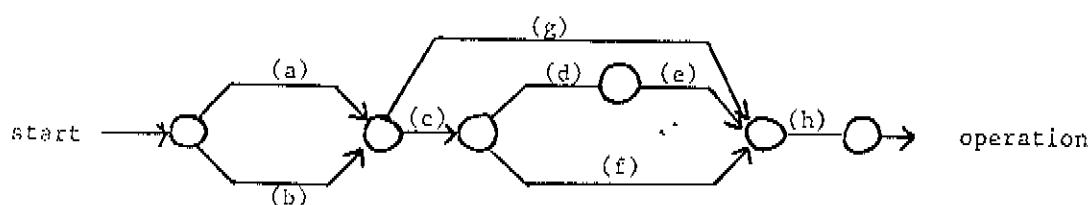
B. System Design

The decision to establish a monitoring system is in principle an interministerial concern. In view of the interdependence of sectors, the responsibility for planning and implementation of the monitoring system should be shared by the sector agencies concerned. This mechanism will vary according to the country.

Setting up the monitoring system should be conceived of as a project with well-defined objectives, activities (including individual project monitoring and evaluation), targets, financial and staff requirements and an implementation schedule. At the end of the project period, monitoring of the WSS sector should become institutionalized, that is, a routine sector activity.

Following is a list of the most important steps involved in setting up the system. Their order is not binding and some of them may be carried out simultaneously (see Figure 2).

Figure 2
DESIGN STAGES



- (a) Formulation of Information Requirements and Glossary of Definitions
- (b) Specification of Reporting Requirements
- (c) Structuring the System
- (d) Assessing Financial, Human Resources Requirements
- (e) Personnel Training
- (f) Preparation of Forms
- (g) Operating Manual
- (h) Testing of the System

With the help of the schematic sector profile presented in Part IV, each information centre should decide on content per category of information, level of detail, and level of aggregation at which data will be collected and processed. After the content has been cleared, a glossary should be compiled explaining the various indicators and the number of digits of each one of the data to be collected.

For national monitoring purposes, annual reporting by sector agencies should be adequate. This corresponds to the budgeting period and reporting requirements for most government agencies and the programming of sector development plans. It is presumed that for their own operational needs sector agencies will produce relevant information more frequently.

The annual executive sector reports should be submitted to the central government through the national planning office (or equivalent), so that progress can be reviewed within the context of the overall national development plan. This way, external constraints to the WSS sector but within government responsibility can be addressed.

Following decisions on information and reporting requirements, the system needs to be structured. Each information centre should be provided with detailed instructions on the source, frequency, form and manner of processing and integration of data into periodic executive reports. Sector agencies should follow the same levels of aggregation.

It is important to define the end use of information, the process of adjustment, the final destination of reports, and the dates of issue. The established time schedule must be adhered to at all levels to ensure the timely preparation of the executive sector report.

Once the appropriate level of detail of information has been selected, it is assumed that the information can be collected and processed by existing personnel, this involving nothing more than observing and recording requested data during routine tasks. At the more central levels, where information accumulates, additional resources may be required for data verification, classification, processing, retrieval, analysis and distribution. At that stage personnel needs should be identified as well as other requirements, such as microcomputer hardware and software (data base management systems and spread sheets). Personnel involved in the operation of the monitoring system should receive adequate training to familiarize them with the operational intricacies of the system and the tasks they are expected to perform. A clear understanding of the indicators used for monitoring is of great importance to ensure uniformity in reporting.

Subsequent to or in parallel with the structuring of the system, the various forms necessary for obtaining data at the selected levels of detail should be designed. Summary forms should be prepared for input into the Annual Executive Sector Report. These forms can be used in conjunction with staff training, and modified to suit the needs of each information centre.

Two basic sets of forms will be those needed for the collection of raw data, with which all personnel should be fully familiar, and those needed for the analysis and reporting of results used by staff responsible for the monitoring system at central levels. In cases where microcomputers are available for data processing, retrieval and reporting could be programmed using spread sheet software.

The monitoring system and its detailed procedures should be explained in an operating manual, which existing and new personnel can use as a reference guide. Drafting of the manual must be completed before system testing.

Once the monitoring mechanism is in place, the system should be tested and the first annual report produced. Preferably, testing should start at the beginning of the year. After the testing period, procedural adjustments should be made and forms finalized.

PART III: COLLECTION AND ANALYSIS OF INFORMATION

As a first step, the various information centres collect the raw data. The schematic presentation of the guidelines suggests primary indicators for the four information categories, and for each of the three proposed levels of detail. Each country should select the data it can handle at the corresponding level of detail and prepare the relevant forms. The final list of data requirements may be shorter than the one proposed here. While primary indicators are based directly on information obtained from these information centres, derived indicators must be deduced. Derived indicators are to serve managerial purposes, and constitute a basic element for sector analysis and reporting. In this context, a derived indicator obtained outside the sector will constitute a primary indicator for the sector.

Forms would be used to establish the baseline situation at the beginning of the sector plan period, as well as each time data is collected for monitoring purposes. During periodic updating, duplication of data should be avoided and data requests limited to items listed on the form. When information cannot be reduced to numeric expressions, it should be presented in short narrative paragraphs. For input in the annual executive sector report, this information should be appropriately condensed and analysed by individual sector agencies. Graphs displaying trends of key indicators should be included, if available. Overall, the presentation should lend itself to easy analysis and highlight sector constraints, remedial measures and planning and target revisions.

In analysing sector information, officials might avail themselves of two useful guides. WHO has developed a Minimum Evaluation Procedure (MEP)^{1/} for WSS facilities, primarily for projects using simple technologies. In addition, an appraisal methodology for WSS projects^{2/} concentrates on aspects that ensure maximum health benefits. It simplifies project appraisal by converting community and project information into numerical form.

A. General Information

General information is divided into the following sub-categories, which should provide a reasonably clear idea of the country's status of development: geography and demography, health, housing, education, economic aspects, planning and sector related programmes. The last sub-category refers to programmes carried out by non-sector agencies; when implemented by sector agencies, they should be presented under institutional information. Data on programme scope and cost and, if possible, the cost component that can be identified as directly benefiting the WSS sector, should be included. The most common sector related programmes are community participation and health education in the context of PHC and HRD.

The major health benefit anticipated from WSS programmes is the reduction of morbidity and mortality from waterborne and filth-related diseases. The incidence of diarrhoeal diseases is a good indicator of WSS conditions in a community. Since in many developing countries such diseases are often under-reported, it may be necessary to utilize a surrogate indicator, such as infant and/or child mortality. A more detailed explanation of health indicators is presented in another WHO Document ^{1/}.

With reference to demography, the most convenient source of information is the national census, subsequently adjusted by census officials. The scheme proposes the following breakdown of population groups, for which each country should use its own definitions:

Urban: sub-divided by size into major, medium and small communities.

Information on the urban poor or fringe population might have to be obtained by the sector agencies themselves; efforts should be made to have it included in the national census questionnaire.

^{1/}Minimum Evaluation Procedures (MEP) for Water Supply and Sanitation Projects, WHO, Geneva, ETS 83.1.

^{2/}Maximizing Benefits to Health, WHO, Geneva, ETS 83.7.

^{1/}Development of Indicators for Monitoring Progress towards Health for All by the Year 2000, WHO, Health for All Series No. 4, Geneva, 1981.

Rural: sub-divided into nucleated (classified by size) and dispersed (including nomadic) population.

B. Institutional Information

Institutional information is split up as follows: sector description, overall sector financing, community involvement, and HRD. For the first two, there is no need to differentiate between the levels of detail.

General information of direct importance for and generated within the WSS sector is included in this category. It should cover all relevant programmes of sector agencies that are not classified under Existing Services or Development of Services but constitute part of overall sector costs. Attention should be paid to deferred costs to avoid double counting. Community participation and personnel training programmes should be indicated if they are carried out by sector agencies or considered as WSS sector costs. Likewise, programmes addressing institutional development, research on appropriate technology, groundwater exploration, inventory of water resources, water pollution, water consumption, and leakage control should also be included. A short description of such existing programmes should be presented, including their costs, targets and accomplishments.

Sector description

Here, all sector agencies, their activities and costs involved in operating the WSS sector should be identified. If the ministry of health implements WSS programmes, only the related division will be part of the sector. Likewise, if a municipality participates in WSS activities, only the appropriate department should be considered as part of the sector. For inputs in the executive report, municipalities acting as sector agencies can be grouped together under an overseeing ministry, e.g. interior.

Overall sector financing

Annual WSS sector costs as percentage of total public sector expenditures are useful indicators of the relative importance given to the sector and the government's commitment to sector development. Financial information should be based on actual expenditures rather than budgetary provisions. When the former are not available, provisional budgetary figures should be used and revised later in the light of actual expenditure.

Community involvement

As mentioned at the outset, a major element of the WHO Decade approach is the association of the community with all stages of WSS programmes and projects. Such community involvement will greatly depend on perceptions of health, disease and needs, and in this connection, PHC-related programmes such as health education, are extremely important. Another WHO Document 1/, highlights the importance of community involvement already at the planning stage, and not merely during the construction phase.

Human resources development

Personnel should be classified as: planning and management, technical, craftsmen/artisanal, administrative/clerical, unskilled manual workers, and community-based. The percentage distribution by categories should be a useful

1/Guidelines for Planning Community Participation in Water Supply and Sanitation Projects by Anne Whyte, WHO, Geneva, ETS/83.8.

indicator of possible shortages and overstaffing. The number of employees per 1,000 connections is another important indicator for piped systems. If operating efficiently, this number will decrease with increasing system size.

The personnel needs identified by the various sector agencies are very important. If existing national training opportunities do not reflect such needs, they should be adjusted accordingly. Training can be offered by a sector agency, or an outside training institute. Performance is a useful indicator of both training needs and effectiveness of training programmes. To determine an agency's commitment to training, a derived indicator would be the training budget as a ratio of total personnel costs. The proportion of expenditures for training abroad will be an important indicator of reliance on national training facilities.

C. Information on Existing Services

This category will help identify major problem areas and is important for setting targets. It includes information related to the operation of piped water supply and sewer systems, public wells and sanitation facilities. Since private wells and latrines are normally operated on an individual basis - at best, with quality control by government to ensure their safety - no information other than coverage is requested for them. Assessment of operational aspects of sector services is important but the relevant information is often difficult to obtain. Therefore, at the first level of detail, only a limited amount of data is requested.

Coverage should be related to acceptable and safe solutions. A glossary of definitions for the various indicators is essential to avoid misunderstanding and to ensure uniform responses. Countries planning to apply Minimum Evaluation Procedures^{1/}, could use the findings on communities surveyed to arrive at national definitions.

Water supply can be judged on the basis of quantity, quality, convenience, and continuity of service. For water quality, three indicators may be used:

Safe water: Water corresponding to adopted national standards based on continuous quality control (as in the case of supplies to major areas of consumption), and/or water from a safe and adequately protected source but not necessarily subject to frequent or routine quality control (as in the case of supplies to smaller communities).

Potentially Unsafe/Safe Water: Water from a source which, although uncontaminated and potentially safe, could become inadvertently contaminated and which is not subject to routine quality control (as in the case of remote rural communities and isolated dwellings using private sources).

Unsafe Water: Water known to be untreated and of poor quality.

In terms of coverage, a first level target could be the provision to each family of a defined quantity of safe water, as well as elimination of health risks from excreta disposal. A protected well within easy access, with a hygienic device for drawing water, and access to a properly constructed latrine, could be considered as "adequate" to this effect. A subsequent target could be a coverage by reticulated public system for water supply and upgraded sanitary facilities. It is very important that countries set their

^{1/} See p. 12.

own realistic criteria for planning and design in their efforts to offer adequate services to the largest possible number of people at minimum cost.

The total population covered by WSS facilities can be estimated by adding the various groups benefiting at different levels of service. Thus, in the case of house connections, the average number of persons per dwelling unit as obtained under "general information", is multiplied by the number of private connections. This, generally, also applies to commercial, industrial and government buildings, since it is customary that there is at least one family living in as caretakers. For public wells, standposts and public sanitation facilities, the number of persons benefiting should be estimated.

Useful derived indicators can be obtained from the information requested under this section. Thus, the ratio of produced volume to installed capacity would indicate the capacity of the system to cope with population growth, and help to identify timing and size of required expansion. The ratio of unaccounted for water: $\frac{\text{produced volume} - \text{billed volume}}{\text{produced volume}}$, is of fundamental importance with respect to physical and managerial system efficiency. Average consumption per capita and per connection, if possible according to the various consumer groups, are valuable figures for system design and expansion, and can also provide an indirect measure of the standard of living.

The provision of WSS services can be financed by direct consumer contribution (tariffs, property taxes), government subsidies, or a combination of the two in accordance with government policy. Tariff structures, including possible cross subsidization between urban and rural areas, can provide a useful tool for income distribution.

Billings and collection refer to monthly averages, which usually do not coincide. The unpaid balance should be classified according to the due date of bills with special reference to major consumers to help recover delinquent accounts. Relevant collection ratio (average collection/average billing), as well as efficiency of collection (arrears/average billing), constitute derived indicators to assess managerial efficiency. Other useful measures of operational efficiency, and for purposes of comparison, are cost and revenues per connection, as well as per m³ produced.

D. Information on the Development of Services

A comparison of sector or Decade targets, as adopted by WHO Member countries with the existing situation clearly show the need for a drastic acceleration of efforts. This category includes information on investment programmes required to meet the planned sector targets.

The accomplishment of targets inevitably calls for huge increase in both investments and outlays for operation and maintenance of sector facilities. Adequate measures must be taken to satisfy both staffing financial requirements, otherwise newly commissioned systems will soon start to deteriorate. In addition, allowances must be made for capital depreciation to allow for replacement of deteriorated installations.

Sector Development Programme

The annual sector plan should specify the number of facilities to be built and the population to be served. At the second level of detail, a distinction is made between construction of new systems for cities/communities hitherto not served and expansion of existing ones. For monitoring purposes,

accomplishments in each period should be registered for each of the indicated items.

The population covered by a new project corresponds to the number of people living in the area serviced by the facility at the time of commissioning. Assuming that a new facility adequately serves population increases, it will be sufficient to add the latter to obtain an updated yearly figure on coverage. For expansion projects, the population already covered will continue to be served, and should therefore not be considered under additional coverage, unless the expansion comprises network extension to populated areas not served previously. It is also important to provide information for each period regarding the state of development of projects and works.

The accomplishment of sector targets will require timely project preparation and implementation, and the information requested under section D.1.c will reflect the situation with respect to the project pipeline.

Investment

The works proposed under the Sector Development Programme must be accompanied by investment requirements. Due consideration should be given to inflationary trends when adjusting yearly cost figures. To facilitate comparisons, amounts should be expressed in national currency and US Dollar equivalents. Realistic cost estimates for future programmes should be based on actual unit costs of previously executed works, as well as ongoing construction programmes, taking into account different levels of service and conditions, and expected inflation.

At the third level of detail, the concept of network extension is added, reflecting capital investments required by operational agencies to extend service to populated areas that have not been covered previously. Such extensions are normally made on a continuous basis and are, therefore, by nature, smaller than investment projects for major system expansion. Nonetheless, such continuous extensions may add to a significant amount, which can best be estimated on the basis of trends observed during previous years. Investment needs for buildings and other facilities of general use, essential for proper system operation and maintenance, should also be noted. When they cannot be directly assigned to water supply or sanitation, they should be presented under a separate sub-category. Finally, proposed amounts and sources of funding should be indicated.

PART IV: SCHEMATIC SECTOR PROFILE

SUGGESTED PRIMARY INDICATORS

A. GENERAL INFORMATION^{1/}

1. GEOGRAPHICAL AND DEMOGRAPHIC

- Area
 - . total
 - . by State or Province

^{1/}Each country should select the general information it considers most appropriate and in accordance with its adopted level of detail.

- Rainfall (average annual)
- Population, total and by State or Province, at beginning and end of plan period
 - . urban ^{2/}, classified by size into major, medium and small cities, separately indicating fringe population
 - . rural ^{2/}, nucleated (classified by size of centres) and dispersed (including nomadic) population
 - . annual population growth (total, urban, rural)

2. Health

- Infant mortality
- Child mortality (1-4 years of age)
- Incidence of waterborne and filth-related diseases
- Life expectancy at birth

3. HOUSING

- Total number of dwelling units
- Average number of people per dwelling unit
- Number of electricity connections

4. EDUCATION

Literacy rate (percentage of population aged 15 years and over, able to read and write)

Percentages of population with schooling

- . primary
- . secondary
- . higher education
- . health education in primary schools

5. ECONOMIC AND FINANCIAL ASPECTS

- Gross National Product (GNP) and rate of annual growth
- GNP per capita and rate of annual growth
- Annual rate of inflation
- Balance of payments situation
- External debt as percentage of GNP
- Exchange rate with respect to US Dollar
- Percentage of unemployment and under-employment in the workforce

6. PLANNING

- National Development Plan (NDP)
 - . period covered by current NDP
 - . authority responsible at national level
 - . is water supply and sanitation (WSS) sector plan included?
 - . total investment proposed in NDP
 - . total, external support in NDP
- Annual cost of Public Sector
 - . as percentage of GNP
 - . percentage of recurrent costs of total public sector costs
 - . percentage of capital costs of total public sector costs

^{2/}Urban and rural should be defined.

7. SECTOR-RELATED PROGRAMMES.

- Scope
- Cost
 - . contribution to WSS sector
 - . contribution from WSS sector
- Primary Health Care (PHC)
 - . community involvement
 - . health education
- Human Resources Development (HRD)
- Other

B. INSTITUTIONAL INFORMATION

1. SECTOR DESCRIPTION

- Agencies with sector responsibility
 - . responsibility of each agency
 - . annual budget (capital and recurrent) by agency
 - . number of employees by agency
- Authority responsible for integration of WSS sector planning at national level
- Period covered by WSS sector plan
- Main WSS sector policies and strategies
- Targets
- Main constraints likely to be encountered during plan implementation

2. OVERALL SECTOR FINANCING

- Source and allocation of funds to WSS sector by year, covering the preceding 5 years and the entire plan period, and including internal fund generation
 - . recurrent costs
 - . capital costs
- Total WSS sector costs as percentage of total public sector expenditures
 - . recurrent costs
 - . capital costs

For sub-categories B.1 and B.2, the information requested is the same for all three levels of detail.

First Level

Second Level

Third Level

3. COMMUNITY INVOLVEMENT

- | | | |
|---|--|--|
| <ul style="list-style-type: none">- By population group<ul style="list-style-type: none">. population served. population involved in decision-making: pre-planning planning- In construction projects<ul style="list-style-type: none">. number of projects | <ul style="list-style-type: none">- By population group<ul style="list-style-type: none">. population served. population involved in decision-making: pre-planning planning- In construction projects<ul style="list-style-type: none">. number of projects. programme cost | <ul style="list-style-type: none">- By population group<ul style="list-style-type: none">. population served. population involved in decision-making: pre-planning planning- In construction projects<ul style="list-style-type: none">. number of projects. programme cost. community contribution- In system operation<ul style="list-style-type: none">. Number of systems. Programme cost. Community contribution |
|---|--|--|

4. HUMAN RESOURCES DEVELOPMENT (HRD)

- | | | |
|---|--|---|
| <ul style="list-style-type: none">- Is there an HRD policy?- Personnel Needs<ul style="list-style-type: none">. by category and year- National Training Opportunities<ul style="list-style-type: none">. by category and year- Is there evaluation of performance<ul style="list-style-type: none">. verbal- Training Budget<ul style="list-style-type: none">. amount by year. percentage spent abroad. total external funding for training per year. percentage spent abroad | <ul style="list-style-type: none">- Is there an HRD policy?- Personnel Needs<ul style="list-style-type: none">. by category and year. by population group- National Training Opportunities<ul style="list-style-type: none">. by category and year. by type: courses, seminars- Is there evaluation of performance<ul style="list-style-type: none">. verbal. written- Training Budget<ul style="list-style-type: none">. amount by year. percentage spent abroad. total external funding for training per year. percentage spent abroad | <ul style="list-style-type: none">- Is there an HRD policy?- Personnel Needs<ul style="list-style-type: none">. by category and year. by population group. by service: water supply, sanitation, general. by function: operation, expansion, general- National Training Opportunities<ul style="list-style-type: none">. by category and year. by type: courses, seminars. by duration: less than 3 months, 3-12 months, over 1 year- Is there evaluation of performance<ul style="list-style-type: none">. verbal. written. based on test- Training Budget<ul style="list-style-type: none">. amount by year. percentage spent abroad. total external funding for training per year. percentage spent abroad |
|---|--|---|

C. INFORMATION ON EXISTING SERVICES

1. COVERAGE

a. Water Supply

<u>First Level</u>	<u>Second Level</u>	<u>Third Level</u>
- Population Served . by population group	- Population Served . by population group	- Population Served . by population group
- Connections . house . yard	- Connections . house . yard . by category of consumer	- Connections . house . yard . by category of consumer . metered, unmetered
- Public Standposts	- Public Standposts	- Public Standposts . metered, unmetered
- Public Wells	- Public Wells	- Public Wells
- Private Wells	- Private Wells	- Private Wells
- Other	- Other	- Other
- Number of Piped Systems	- Number of Piped Systems	- Number of Piped Systems
	- Installed Capacity (IC)	- Installed Capacity (IC)
	- Volume Produced (VP)	- Volume Produced (VP)
		- Volume Consumed (VC)
	- Volume Billed (VB)	- Volume Billed (VB)
- Number of Systems with . safe water . unsafe water	- Number of Systems with . potable water . safe water . unsafe water	- Number of Systems with . potable water . safe water . unsafe water
	- Number of Systems and Users with . continuous service . intermittent service	- Number of Systems and Users with . continuous service . intermittent service
		- Number of Users per System with . adequate pressure . inadequate pressure

b. Sanitation

- Population Served . by population group	- Population Served . by population group	- Population Served . by population group
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<u>First Level</u>	<u>Second Level</u>	<u>Third Level</u>
- Connections	- Connections . by category of consumer	- Connections . by category of consumer . metered, ⁽¹⁾ unmetered
- Public Toilets	- Public Toilets	- Public Toilets
- Public Septic Tanks	- Public Septic Tanks	- Public Septic Tanks
- Public Latrines	- Public Latrines	- Public Latrines
- Private Latrines	- Private Latrines	- Private Latrines
- Other	- Other	- Other
- Number of Sewer Systems with . treatment . direct discharge	- Number of Sewer Systems with . treatment plant . oxidation ponds . direct discharge	- Number of Sewer Systems with . primary treatment . secondary treatment . oxidation ponds . direct discharge
	- Installed Capacity (IC)	- Installed Capacity (IC)
		- Volume Received (VR)
		- Volume Discharged (VD)
		- Volume Billed (VB)
 2. <u>COST OF SERVICES</u>		
a. <u>Water Supply</u>		
. by population group	. by population group	. by population group
- Operational Costs (OC)	- Operational Costs (OC) . personnel . material and services . overheads . capital costs (interest and depreciation)	- Operational Costs (OC) . personnel . material and services . overheads . capital costs (interest and depreciation)
- Operational Revenue (OR)	- Operational Revenue (OR)	- Operational Revenue (OR) . from tariffs . other operational revenues
- Gain or Loss (GL)	- Gain or Loss (GL)	- Gain or Loss (GL) . from operation . subsidy towards operation

^{1/} When a water connection is metered, the volume of waste water is estimated as a percentage of water consumption.

<u>First Level</u>	<u>Second Level</u>	<u>Third Level</u>
- Tariffs and Structure	- Tariffs and Structure	- Tariffs and Structure
		- Average Billing (AB)
		- Average Collection (AC)

D. INFORMATION ON DEVELOPMENT OF SERVICES

1. SECTOR DEVELOPMENT PROGRAMME

a. Water Supply

. by population group	. by population group	. by population group
. by year	. by year	. by year
- New Systems to be Constructed	- New Systems to be Constructed	- New Systems to be Constructed
. number	. number	. number
. population to be served	. population to be served	. population to be served
		. design population
		. design period
	- Expansion of Existing Systems	- Expansion of Existing Systems
	. number	. number
	. population to be served	. population to be served
		. design population
		. design period
- New Public Wells	- New Public Wells	- New Public Wells
. number	. number	. number
. by year	. by year	. by year

b. Sanitation

. by population group	. by population group	. by population group
. by year	. by year	. by year
- New Systems to be Constructed	- New Systems to be Constructed	- New Systems to be Constructed
. number	. number	. number
. population to be served	. population to be served	. population to be served
		. design population
		. design period
- Public Toilets	- Public Toilets	- Public Toilets
. number	. number	. number
. population to be served	. population to be served	. population to be served
- Public Latrines	- Public Latrines	- Public Latrines
. number	. number	. number
. population to be served	. population to be served	. population to be served

<u>First Level</u>	<u>Second Level</u>	<u>Third Level</u>
- Private Septic Tanks ^{1/}	- Private Septic Tanks ^{1/}	- Private Septic Tanks ^{1/}
. number	. number	. number
. population to be served	. population to be served	. population to be served
c. <u>Project Preparation and Implementation</u>		
. number	. number	. number
. population to be served	. population to be served	. population to be served
. estimated cost	. estimated cost	. estimated cost
- Projects Identified	- Projects Identified	- Projects Identified
- Projects Prepared	- Projects Prepared	- Projects Prepared
- Projects Approved	- Projects Approved	- Projects Approved
- Projects Funded	- Projects Funded	- Projects Funded
- Projects under Construction	- Projects under Construction	- Projects under Construction
2. <u>INVESTMENT</u>		
a. <u>Water Supply</u>		
. by population group	. by population group	. by population group
. by year	. by year	. by year
- New Systems	- New Systems	- New Systems
	- Expansion	- Expansion
- Public Wells	- Public Wells	- Public Wells
- Other	- Other	- Other
b. <u>Sanitation</u>		
. by population group	. by population group	. by population group
. by year	. by year	. by year
- New Systems	- New Systems	- New Systems
	- Expansion	- Expansion
		- Network Extension
- Public Toilets	- Public Toilets	- Public Toilets
- Public Latrines	- Public Latrines	- Public Latrines
- Public Septic Tanks ^{1/}	- Public Septic Tanks ^{1/}	- Public Septic Tanks ^{1/}

(1) As part of sites and services projects or other public works programmes.

c. Buildings and Facilities of General Use

- | | | |
|-----------------------|-----------------------|--------------------------------|
| . by population group | . by population group | . by population group |
| . by year | . by year | . by year |
| - Consumer Resources | - Consumer Resources | - Consumer Resources |
| | | . sale of services |
| | | . other consumer contributions |
| | - Government Subsidy | - Government Subsidy |
| - Internal Loans | - Internal Loans | - Internal Loans |
| - External loans | - External loans | - External Grants |