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WATER SUPPLY AND WASTE DISPOSAL SECTOR

APPRAISAL HANDBOOK

September 1978

Central Projects Staff
Energy, Water and Telecommunications Department

This paper is one of a series issued by the Energy, Water and Telecommunications Department for the information and guidance of Bank staff working in the power, water and wastes, and telecommunications sectors. It may not be published or quoted as representing the views of the Bank Group, and the Bank Group does not accept responsibility for its accuracy and completeness.

WATER AND WASTES DISPOSAL SECTOR

APPRAISAL HANDBOOK

A B S T R A C T

The purpose of this handbook is to provide sector specific guidelines to assist staff in project appraisal and the preparation of Staff Appraisal Reports (SAR) for which basic instructions are outlined in Operational Manual Statement 3.04.

The appraisal handbook is organized into seven chapters, the first of which discusses the sector and previous Bank involvement. The second chapter presents information about the project area and analyses demands for the services the project is to provide, followed by a description of the project in the third chapter. In the fourth chapter the financial analysis is presented and in the fifth the borrower and implementing agency are evaluated. In the sixth chapter project benefits and risks are discussed, followed by a final chapter presenting recommendations.

The handbook incorporates a large number of suggestions by sector and CPS advisory staff. A draft of the handbook was reviewed at a sector staff meeting at which urban project staff participated and contributed valuable suggestions. The introductory section on Basic Purpose and Obligation of Appraisal borrows from work done by the EMENA Appraisal Report Working Group for Public Utilities.

project appraisal

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Energy, Water and Telecommunications Department

September 1978

WATER SUPPLY AND WASTE DISPOSAL SECTOR

APPRAISAL HANDBOOK

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1/ Beginning with Chapter I above, this Table of Contents can be used both as an example for reference and as a broad check list at the time of Appraisal.

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A statement along the following lines should be included in most Tables of Contents:

This report is based on the findings of a Bank appraisal mission which visited (country) in (month, year), comprising Messrs. (Bank staff and designation) and Messrs. (names), consultants. The report has been written by Messrs. (Bank staff and designation) with assistance from Messrs. (Bank staff and designation).

APPRAISAL HANDBOOK

WATER SUPPLY AND WASTE DISPOSAL SECTOR

Introduction

i. Basic Purpose and Obligation of Appraisal

Project appraisal is only one of a number of exercises falling within the framework of the Bank's lending strategy for a particular country. It is a detailed examination of a project selected for Bank Financing, the broad goals for which have already been largely defined. It thus has specific, but limited, goals.

The relative importance of a sector in a nation's economic development and the selection of a project to contribute towards the development of the sector should have been largely decided before appraisal occurs. Implicit in the initial selection of a project is a broad acknowledgment of the institutional benefits likely to accrue to the sector and to the economy.

Project identification and broad justification of its viability are usually made in the "Project Brief". These and related activities are part of the preappraisal process The appraisal, which follows, has the following principal objectives:

(a) Determination, in detail, of the role and timing of the project in meeting economic/sectoral goals;

(b) determination that the project, taken on its own merits, is technically, economically and financially sound and fulfills an appropriate role in the borrower's investment program;

(c) examination of the institutional arrangements of the project entity to determine the institutional changes (including additional staff and consultancy services and training) required for the adequate execution and operation of the project and to enable the project entity to efficiently and effectively carry out its present and proposed future operations, including those related to the project;

(d) ensuring that for urban water and sewerage projects and for national sector programs sound public utility practices, covering such aspects as cost recovery, accounting, auditing, insurance, etc., are followed; and

(e) establishment of specific recommendations regarding the negotiating position to be taken by the Bank management upon matters considered sufficiently important for project implementation, to secure the borrower's agreement.

Project appraisal is normally undertaken only when examination of a feasibility report or similar document provided by Government describing the project has indicated that:

(a) the project is of the type which could be financed by the Bank,

(b) the economic return of the project is likely to be acceptable to the Bank,

(c) preparation of the project has been adequate to provide the basic data needed for appraisal.

The appraisal procedure comprises a field mission to review all aspects of the project and subsequent preparation of a staff appraisal report (SAR) based upon the information obtained in the field and from documents provided by the Government.

ii. Use and Purpose of Appraisal Handbook

A new form of appraisal report was approved by the Executive Directors in May 1977, following which Bank staff were given guidance on how to prepare the new report. The basic instructions are outlined in Operational Manual Statement 3.04 - Format and Contents of Staff Appraisal Reports. However, this guide is not sector specific and separate instructions are foreseen for the various sectors. The purpose of this handbook is to provide guidelines to assist staff both in preparing the SAR for projects in the water supply and waste disposal sector, and in the appraisal process itself.

There are obvious advantages to the Bank staff and management, as well as to others, to be reasonably consistent in the treatment and presentation of project issues and recommendations. These guidelines are intended to help appraisal team members and authors of reports to achieve this consistency. Nevertheless, no two projects are alike and each SAR must be unique. Furthermore, the wide and growing spectrum of projects included in

this sector involves a wide range of topics which emphasizes the variations which must occur between projects.

This handbook deliberately excludes several topics. Presentational details for the SAR are covered separately in Annex A of OMS 3.04. Processing procedures for the SAR (report drafts, colors, clearances, etc.) are outlined adequately elsewhere, including in OMS 2.00, Procedure for Processing Loans and Credits. The portions of the President's Report which are based on the SAR (III - Sector and Subsector, and IV - The Project) and which are normally drafted by projects staff (presumably after the initial draft of the SAR is completed) are explained in OMS 3.02.

Throughout these guidelines references to the Bank also refer to the International Development Association (IDA).

Finally, it must be stressed that this document is only a guideline, not a rulebook. Full responsibility for appraising each project and presenting the resulting analyses and recommendations rests entirely on the staff preparing the SAR. These guidelines should be used to facilitate the appraisal process but are not intended to be a substitute for the professional judgment of the individuals concerned. The guidelines are on purpose very comprehensive to cover as many likely situations as possible. Staff should exercise judgment as to the need for and detail given to any topic.

iii. The Project Cycle and Relevant Bank Documents

Project appraisal is a crucial stage in the process by which the Bank lends for development projects. But it is only one stage in an overall process which culminates in the successful operation of a completed project.

Reviewing the entire project cycle periodically can be helpful in sharpening perspectives on the staff appraisal process. 1/

The various stages in the project cycle, documents normally produced within the Bank at each stage, and references providing guidance can be summarized as follows:

Project Stage	Relevant Bank Documentation	References
Identification	Country Program Papers	OMS 1.12
	Country Sector Work	OMS 1.13 and GAS 4
	Supervision Reports (potential repeater loans)	OMS 3.50 and OMS 3.55
	Project Brief	OMS 2.13
Preparation	Technical Assistance and Engineering Loans	OMS 4.00
	Memorandum for Advances Under Project Preparation Facility	OMS 2.15
	Pre-appraisal Mission Reports	
	Project Brief (revised)	OMS 2.13
	Issues Paper/Decision Memorandum	
Appraisal and Negotiations	Issues Paper/Decision Memorandum	
	Staff Appraisal Report	OMS 3.04
	President's Report	OMS 3.02
	Legal Documents	OMS 3.18
Supervision and On-going Evaluation	Supervision Reports	OMS 3.50 and OMS 3.55
Ex-post Evaluation	Project Completion Report	OMS 3.58
	Project Performance Audit Report	

Although the appraisal process is the most intensive part of the Bank's involvement in the project cycle, this stage cannot proceed effectively unless the project has been well prepared. This preparation has to be done mainly by the project proponent, not by Bank staff. Yet Bank inputs into the project during the critical preparation stage are generally more valuable to

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1/ See also OMS 2.12 - Project Generation and Design (in preparation).

the project proponent (and his consultants) than if Bank staff wait until the appraisal stage to try to modify project objectives or content.

The Project Brief has evolved as the Bank mechanism to generate internal dialogue in the early stages of the project cycle and hence help improve project preparation. The proper use of this mechanism, followed by careful and deliberate guidance to the authorities responsible for preparing the project, ought to facilitate preparation of superior projects and also expedite the process of loan making. The Project Brief thus deserves the continuous attention of project staff concerned with project preparation and subsequent appraisal. Periodic revisions to the Project Brief and feedback from its recipients are important aspects of using this communication mechanism.

The Issues Paper is the tool by which project staff can obtain guidance from Bank management on important issues associated with a proposed project. Normally an Issues Paper (with the latest Project Brief appended) is prepared immediately after an appraisal mission returns to the Bank and a Decision Memorandum records the directions given to mission staff on the issues raised. In projects where no fundamental issues arise, a one paragraph Issues Paper to this effect should suffice.

Staff should also recall that many project-related issues can be resolved within the Bank long before appraisal. Issues papers should be issued whenever the staff have identified a significant issue on which guidance is sought - the earlier in the appraisal process, the better.

The Staff Appraisal Report (SAR) provides the basis for preparing the legal documents on which the Bank loan is negotiated. It also provides essential components for the President's Report (particularly Sections III

and IV on the sector and the project), the basis for the Executive Directors' decision on approving the recommended loan.

During project implementation the SAR (and related documents in the project file) have value both to the implementing agency and Bank staff as a record of the originally planned objectives, components and schedule for the project. This overview of the project can provide a useful perspective at times when problems arise in the routine course of project execution.

On completion of the project, the Completion Report, generally prepared by the implementing agency, provides its perspective on the project.

The Bank regularly evaluates projects after they become operational in order to improve the Bank's own operations and the effectiveness of its clients' development efforts. At this stage the SAR becomes a primary document for the ex-post evaluation of the project.

Other Relevant Documents

OMS 1.19	-	World Bank Goals in Project and Non-Project Lending
OMS 2.20	-	Project Appraisal
OMS 1.13	-	Country Sector Work
GAS 1	-	WHO/IBRD Cooperative Program
GAS 2	-	UNDP/Special Interest Procedures: Water and Sewerage
GAS 4	-	Guidelines for Sector Work in the Water Supply and Waste Disposal Sector
PUN 18	-	Evaluation of Solid Waste Projects
PUN 28	-	Manpower Development and Training in the Water Section
PUN 29, 29a	-	Costs and Benefits of Water Metering
GAS 13	-	Guidelines for Economic Evaluation and Financing of Sewage Projects

PUN 11 - Urban Water Supply and Sewerage Pricing

GAS 6 - Guidelines for Estimating Costs of Tunnel Construction

THE APPRAISAL AND APPRAISAL REPORTS

The items shown under each chapter in the following pages while broad and fairly complete will not cover all matters needing attention at the time of appraisal in all circumstances. Similarly the coverage and order of presentation used here should not be considered universally applicable nor a model to be followed for every project. Principal reference documents where appropriate are shown at the beginning of each topic by the symbols **OMS, **CPM, etc.

I. The Water Supply and Waste Disposal Sector

**Gas 4, "Guidelines for Sector Work in the Water Supply and Waste Disposal Sector".

1.01 Broad information on the water and waste sector needs to be collected and reported for the country. How does the sector operate at all levels of government and what is the status and reliability of data? In reporting, specific discussion of the project area should normally not be included in this section.

1.02 How does the sector operate nationally? Provide judgments on how effectively the various categories of population have been provided with water supply and waste disposal services.

1.03 The water supply, waste disposal and public health aspects of the sector should be covered, even if the project itself only deals with one service. Most of the basic information for this section should be available from government documents and from existing sector reports.

Another possible source of relevant information is the Bank's country economic report.

1.04 In cases where very little information exists on the sector nationally, this should be reported. If the absence of a sector study, recommendations should be made to remedy the situation.

1.10 Country Background

1.11 Physical setting; climate and seasonal variations; location of principal natural resources, particularly those affecting sector demands.

1.12 National population; regional distribution; urban and rural components; trends. Display in tabular form, with comments as appropriate.

1.13 Socio-economic indicators; public health data related to water supply and sanitation outlining any regional variations; urban poverty income threshold and estimated location and number of urban poor (details from country economic report, country economist or urban projects department). Provide supporting details in the project file.

1.20 Water Resources

1.21 Overview of available surface and groundwater resources. Is hydrologic data available and reliable? Comparison of use by various sectors, particularly consumptive use. Is water scarce? Located near demand centers?

1.22 Allocation of water resources: existing legal arrangements and actual practices.

1.23 Water quality - General assessment of the chemical, physical and bacteriological quality of water sources throughout country with particular emphasis on those which are presently or shortly to become points of public supply.

1.24 General assessment of water pollution problems, existing and potential and an evaluation of existing regulations and control mechanisms.

1.30 Sector Organization and Developments

1.31 Identify and outline the role of all institutions which have an impact on sector developments (water supply, waste disposal and public health) throughout the country. Which are public and which private? Which are national and which regional or local? Simplify presentation by presenting the information in a table, if possible.

1.32 Explain the process by which sector developments are generally planned, financed, built and operated. Comment on the effectiveness of existing arrangements, including cooperation between various institutions. Make particular reference to the implementing agency for the proposed project and its relationship to others in the sector.

1.33 What method and philosophies govern financing of water and sewerage, urban and rural, and what role do the people play in covering costs by direct payments for services received? Who determines tariffs and how are they collected?

1.40 Present Service Levels

1.41 Service levels should be defined, then evaluated in terms of quantity and quality. In broad terms, what percentage of the national population has reasonable access to improved water supplies? Adequate waste disposal facilities?

1.42 What patterns exist in provision of sector services? Compare the systems for the urban and rural populations, those in the large cities with those in the small ones. What provisions are generally made for the urban poor?

1.43 Are sector services paid for by the users? Who determines the tariffs and how are they collected?

1.44 Summarize existing sector objectives and development strategy in terms of quantity and quality of service. How are the objectives defined, e.g. in terms of meeting the basic needs of the population, or constructing specified facilities, or spending particular amounts of money? Do realistic targets exist? Are they being met? What has been the experience in implementing sector objectives over the past five years?

1.50 Service Level Goals

1.51 How do enunciated goals compare to those outlined at the United Nations Water Conference (Mar del Plata, Argentina, 1977) for the International Drinking Water and Sanitation Decade (1980-1990)?

1.60 Implications of Meeting Sector Goals

1.61 Determine the order of magnitude of the resources likely to be required to meet the service level goals, particularly in terms of finance and personnel. Compare future resource requirements with those allocated to the sector in the past and comment on the probability of the necessary resources becoming available.

1.62 Summarize the financial resources provided in recent years and projected in future for sector developments, water supply and waste disposal, both

for capital and operating expenditures. Compare these expenditures with total public expenditures in the same periods and comment. What trends are apparent, and why? Outline the extent of past and projected external financial assistance.

1.63 Analyze sector manpower, by skill levels, in comparison to requirements. Reliance on expatriates? To what extent are national and international consultants and contractors used? Review any national training programs and facilities and assess their effectiveness.

1.70 Possible Constraints

1.71 If the mission believes that the existing goals of the government need elaboration or revision, suggested alternative goals should be explored.

1.72 Evaluate the principal constraints which could restrain sector developments. This should set the background for solutions recommended in the proposed project.

1.80 Previous Bank Involvement

1.81 Identify all previous Bank operations in the sector, including references to appraisal reports and project completion reports. Bank goals in previous lending operations should be outlined and analyzed in the light of actual developments. What lessons have been learned?

II. POPULATION, SECTOR SERVICES AND DEMAND IN THE PROJECT AREA

Items covered in this chapter provide specific background information which demonstrates the need for the proposed project. Different treatment is obviously required here for a rural sanitation project than for a

sewerage project in a large city. A water supply project for villages throughout a country similarly requires emphasis in this chapter on different topics than a water supply project concerned primarily with improving distribution facilities for the urban poor.

2.10 Location

2.11 The project area should be accurately located, including reference to the appropriate map. Where a regional or metropolitan area is to be served, political and jurisdictional boundaries for all agencies involved in the project should be demarcated.

2.12 Any special features which distinguish the project area from the rest of the country or might affect the project should be high-lighted (e.g. topography, climate, water resources, geology, ethnic population, local traditions, etc.).

2.20 Regional Development Prospects

2.21 Basic features of the local economy should be determined and contrasted to the national economy. The local resource base should be identified and an overview provided of development prospects for the region. Dependencies between such economic development and the water supply and waste disposal sector should be emphasized.

2.30 Sector Agencies

2.31 The principal agencies involved in the project area should be identified and their specific roles delineated, including relevant boundaries. An assessment of previous performance of each agency should be provided, along with an assessment of their main constraints (political, financial, managerial, staff, etc.). Interagency cooperation and conflicts should be probed.

2.32 The relationships between the implementing agency and all others involved in the sector should, be clarified. In reporting, detailed analysis of the implimenting agency should be deferred until a later chapter.

2.40 Existing Water Supply and Waste Disposal Systems

2.41 A description of existing systems and their historic development should be provided, both for water supply and waste disposal. Comment on water sources, raw water qulaity, the design standards and the operational effectiveness of each system and the main component, including any treatment plants (water supply or wastewater). Reference should be made to the report map which depicts the main facilities. Detailed elaboration of system components is not required in the SAR but the reader should be informed where such information is available, either in detailed reports prepared by the implementing agency or its consultants or in a summary prepared by the appraisal mission. In either case the project file should list the document containing this basic information.

2.42 An assessment should be made of the level of technology and the technical performance of the existing systems. Were they well-conceived and built? Are they operated satisfactorily? Have they sufficient capacity to be expanded?

2.43 What effect do disposal practices for solid wastes have on wastewater and stormwater drainage systems in the project areas? On public health?

2.50 Population Served and Standards of Service

2.51 Obtain and evaluate estimates of the present population in the project area by income level if possible, indicating the source of the data. Ensure that the population figures are consistent with the relevant regional or metropolitan boundaries. Provide and discuss any socio-economic indicators, particularly public health statistics related to water supply and sanitation (life expectancy, infant mortality, incidence of diarrheal diseases, etc.). List source material in the project file.

2.52 Determine the various methods by which all of the present population obtain their water supplies. Summarize the numbers served by the various public water systems and the relevant standards of service (piped supply, courtyard taps, standposts in the street, tanker trucks, etc.) including reliability of service. What water sources are used by people not served by public systems. How good are they?

2.53 Estimate the quantities of water presently used by various types of consumer (industrial, public institutions, commercial, domestic, etc.) and, for domestic consumers, by the various standards of service. Accurate statistics may be difficult to obtain from the sector agencies but informed guesstimates by the appraisal mission (to be improved by future monitoring arrangements) are preferable to a general discussion. How much water would likely be used at present by the various consumer groups if water were continuously available under pressure in the existing distribution system? Is water rationed at present by administrative or physical measures

(value operations, fordilla-type taps, orifice plates, etc.)? Where guestimates are used show likely range of reliability.

2.54 Water presently used by consumers in various systems should be compared with water produced by the water supply authorities. Discuss quality of water in distribution system. Show chemical and bacteriological analysis data. Outline metering arrangements (source, distribution system and consumers) and comment on the accuracy of available data. Assess unaccounted-for water (the difference between water produced and water billed) 1/ as a percentage of water produced. Discuss possible losses and the prospects for the reduction of the various components of unaccounted-for water (physical losses, meter errors, theft, inaccurate records, etc.).

2.55 As for water supply, make estimates of the numbers of people in the project area served by different systems for waste disposal (waterborne sewage in separate or combined sewers, septic tanks, cartage systems, pit latrines, unorganized disposal of human and industrial wastes, etc.). Discuss the consequences of the various standards of service. The ultimate disposition of the wastes from each disposal system and the impact on the population, both within and outside the project area, should be examined.

2.56 What water pollution problem exist in the project area, and what are the principal causes of this pollution? The ultimate disposition

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1/ If water is provided to certain facilities in amounts which are known but is not billed for, this volume can be classified as "accounted-for" if the water organization management and the Bank so decide.

of water from each disposal system and the impacts should be determined, particularly as they affect the project and adjacent areas. What effects do disposal practices for solid wastes have on wastewater and stormwater drainage systems in the project areas? On public health?

2.57 Water Supply Service for the Urban Poor

Particular attention should be paid to the poverty group (urban or rural) in the project area. In the first place this group should be defined, preferably on the basis of available socio-economic analyses. If such studies do not exist, guidance may be sought from other Bank staff (programs and urban projects). The appraisal mission may have to make informed guesstimates of the numbers and location of the poverty group, guided by poverty income level data for the country (available from country program economists in the Bank), knowledgeable local officials (in planning and housing agencies as well as the water supply authorities) and, most importantly, by visual inspection of the project area. The various locations of the poverty groups should be determined and sketched on the report maps. The report should specifically discuss the standards of service of water supply and waste disposal facilities of these poor people and compare these standards to those of the rest of the population.

2.60 Population Projections and Demand for Services

** GAS 10 - Economic Evaluation of Public Utility Projects. (Section II - The Demand Forecast)

2.61 Future demands for services are a crucial aspect of project appraisal and merit special attention. Demands for water need to be analyzed in both water supply and waste disposal projects. Similarly the consequent requirements for waste disposal facilities need to be examined, even if the proposed project deals only with water supply. The relative emphasis on the two components of the basic water/wastes service should depend on the nature of the project being appraised. For a sewerage or sanitation project the expected water demands can be briefly summarized and the reader should be informed how such water demands are expected to be met (outside the project), following which the demands for waste disposal should be elaborated.

2.62 Examine relevant plans for economic development and population growth in the project area. If possible these projections should deal explicitly with the poverty group as a component of total population. Present the mission's estimates of future population in the project area (consistent with previous boundary definitions) for the near- and medium-term if other estimates are unavailable or unreasonable. A reasonable range of future populations, along with a most probable single projection, should be compared to historic growth rates in the project area and to estimates of the national population in the years ahead. List sources of relevant information in the project file.

2.63 Water demands should be presented graphically for the past, present and future. The basis for such estimates, including studies by the

project proponents, should be outlined and evaluated. Are existing estimates consistent with current experience? The various components of demand should be disaggregated to the extent possible. Factors to be considered in estimates of future water demands include:

- demographic changes, including proportions of poor consumers;
- water use patterns of various consumer groups: domestic (by income levels), commercial, public institutions and industries (large water users analyzed individually). Are any major additional demands expected from new or expanded industries? Also outline water use by other sectors in multi-purpose water projects (particularly consumptive uses);
- land use plans, based on existing controls on land development. Are water supply and waste disposal services used to shape land development patterns?;
- developments in the housing sector, particularly the number of potential new connections;
- past, present and anticipated future use and control of private water supplies;
- standards of service, in terms of distribution network coverage and numbers of individual and public connections and dependability of supply;
- future charging procedures (including metering arrangements) and tariff structures; and
- present and probable future price levels for alternative standards of service, particularly connection charges and

various tariffs for water supply and/or wastewater disposal. Refer to detailed discussions of future tariffs in the financial and economic chapters of the report.

Assumptions used to prepare estimates of future demands should be recorded in the project file.

2.64 Careful distinction needs to be made between theoretical demand (assuming no deficiencies in supply or distribution) and the probable future water consumption in the light of anticipated system constraints. Water production at source needs to be estimated separately, with due allowance for unaccounted-for water. Seasonal variations merit attention, particularly where demand or supply are exaggerated in certain seasons. In the resulting projections of water demand and production over the years, any major divergences within the trends should be analyzed and explained.

2.65 Demands for waste disposal services should be similarly evaluated in terms of consumer category and location and in terms of the objectives of the waste disposal program (removal of pathogens, reduction in water pollution, etc.). To the extent possible, distinguish between human wastes, domestic sullage (or grey water) and industrial wastes. A very significant component of such demand is the volume of water expected to be delivered to the locality, which depends essentially on distribution system standards. Industrial activities and associated pollution is another major factor. The report should assess demand in terms of population densities, sanitation and health standards, soil conditions (permeability and groundwater levels), precipitation patterns, local

topography (slopes for runoff), stormwater drainage systems and the impact of the wastes on receiving waters. Alternative standards of service should be discussed explicitly.

2.66 The particular demands of the poverty group should be highlighted in this section of the report. The basic needs of this part of the population should be estimated separately and compared both to the existing standards of service of the poverty group and the projected service standards for other segments of the population.

III. THE PROJECT

3.10 Genesis

3.11 How and when did the concept of the project develop? Is it an outcome of previous Bank or other lender's operations in the sector (sector study, engineering loan, urban or agricultural project, etc.)? Outline the sequence of Bank involvement in the project and any significant consequences on project objectives or scope. If several missions took place prior to or after the original appraisal they should be documented (including list of mission members and principal conclusions of missions) in chronological order in the project file.

3.12 To what extent has there been community/public participation within the project area in formulating and planning the project?

3.13 What are the reasons for the proposed Bank involvement in this part of the sector? What are the Bank's goals in the sector and how do these relate to the project area? Why does this particular area of the country rate priority? If too little is known about national needs to

demonstrate such priority, this should be acknowledged. What is the relationship of the proposed Bank project to other sector developments in this project area? Has consideration been given to sector lending, perhaps in the long-term, as well as project lending? Are the project objectives in conformity with governments sector objectives and the long range master plan of the water organization?

** CPM 8.2 - Sector Lending

3.20 Objectives

3.21 The basic objectives of the project should be established, in order of importance, and explained as necessary. The primary objectives should focus on the people to be served and the quality of service to be provided. These objectives should be quantified to the extent possible, to permit future evaluation of the project.

3.22 The population to be served should be estimated and their location indicated on the map. Which people, if any, are to be excluded from the project's service area? Why?

3.30 Technological Alternatives, Service Standards and Technical Justification for Project.

** Appropriate Technology in World Bank Activities (Bank report of July 1976)

** Appropriate Technology for Water Supply and Waste Disposal (see most recent report of Research Project 671-46)

** PUN 31 - Water Supply Service for the Urban Poor: Issues

** RES 11 - Design of Low Cost Water Distribution Systems

** Health Aspects of Excreta and Sullage Management (in preparation by Ross Institute)

** Options for Sanitation Technologies (in preparation by International Development Research Centre)

** Village Water Supply: World Bank Policy Paper; March 1976

** Village Water Supply: Economics and Policy in the Developing World; Saunders and Warford; 1976

3.31 The range of service standards and alternative technical solutions which were considered by the project proponents to meet the project objectives should be arrayed and evaluated. Regardless of whether the proposed project deals principally with water supply or waste disposal, an analysis of technological alternatives must assess the impacts of both services over the feasible range of service standards. Can a relatively simple system be installed initially, with potential for upgrading in future? How are water use restrictions expected to be affected by the project? Unless these important matters are explicitly and comprehensively covered in feasibility or design reports by others (and referenced in the project file), appraisal staff should complete such an analysis and document it in the project file.

3.40 Description of Project Components

3.41 Examine the basic components of the project. How do they relate to any existing facilities and to ongoing developments in the sector (particularly other activities in the implementing agency's work program)?

Record the physical features of the project, with reference to the project map and supporting diagrams or descriptive material. An annex of the SAR when prepared should contain a detailed description of all components of the project. Are water supply and/or sewerage connections included in the project?

3.42 What is the status of design for the various components of the project? Evaluate geological and other technical studies carried out for civil engineering structures. How well is the distribution system design in water projects integrated with the source and transmission systems? Discuss any uncertainties about the scope of individual project components and recommend any action required, including deadlines. Refer to all available reports and studies in the project file.

3.43 Are there short term or remedial measures which may be undertaken to accomplish objectives before the main components of the project become operationa?

3.44 For non-structural components of the project (studies, training programs, public information campaigns, etc.) rationalize and describe the main features.

3.45 Although not defined as part of the project, complementary inputs to be provided by other agencies may be crucial for the success of the project (e.g. public health education, sanitation, solid wastes management, etc.). Such additional inputs to the project require definition, plus recommendations to ensure their timely provision.

3.50 Cost Estimates

** CPM 2.3 - Presentation of Cost Estimate Tables

** CPM 2.31 - The Treatment of Taxes in Project Cost Estimates

** CPM 2.4 - Calculation of a Project's Foreign Exchange Costs

** CPM 2.5 - Definition of Capital and Current Expenditures

** CPM 2.10 - Contingency Allowances in Project Cost Estimates

** CPM 2.10(a) - Impact of Price Increases on Costs and Implementation of Projects

** OMS 1.22 - Local Cost Financing and Cost Sharing
Annex - Calculation of a Project's Foreign Exchange Cost

** Price Contingency Guidelines (issued periodically by Vice-President, Central Projects Staff)

** GAS 6 - Guidelines for Estimating Costs of Tunnel Construction

3.51 Cost estimates showing local and foreign exchange components should be prepared in accordance with planned expenditures, i.e. by implementing agency and by contract. Are any of these costs already committed? The summary cost estimates in the text should separately identify costs for construction, engineering, training, management, consultants, physical contingencies, price increases and interest during construction (if used to determine the loan amount). Detailed cost estimates, including estimates of annual expenditures during the project period, should be provided in an annex to the SAR.

3.52 The basis on which the cost estimates are prepared and their reliability should be explained and also the allowance for physical contingencies

and price increases. What relevant cost experience is available in the country, particularly on previous Bank projects? All assumptions used by the mission to finalize the cost estimates ought to be recorded for future reference, either in the report annex with the detailed cost estimates or in a separate memorandum placed in the project file. If the mission's estimate of project costs varies considerably from that of the project proponent or consultants, the discrepancies should be noted and explained.

3.53 Assumptions for estimating the foreign exchange component of project costs should be specified, including the probable award of contracts to local firms and the materials expected to be produced locally. Differentiate between Direct and Indirect foreign exchange costs.

3.60 Project Financing

** OMS 1.22 - Local Cost Financing and Cost Sharing

** OMS 1.24 - Co-Financing

3.61 Establish the various sources of financing for the project. Is more than one local agency providing funds for the project? The recommended Bank participation in project financing should be noted. A comprehensive analysis of the implementing agency's finances covering other programs as well as the project should be made and duly presented in the SAR.

3.62 Any co-financing arrangements, actual or tentative, should be outlined and their status defined. Parallel financing or joint financing? Are there any issues or problems expected as a result of such co-financing? Recommendations should be made for any actions to be taken by the

implementing agency (or the Government) to secure and coordinate all necessary project financing, including possible cost overruns.

3.70 Implementation

** OMS 2.18 - The Development of Local Capabilities and the Use of Local Consultants

** OMS 2.50 - Services of Consulting Firms for Bank Group Projects and UNDP Studies

** Uses of Consultants by the World Bank and Its Borrowers (Booklet of April 1974)

** CPM 7.8(a) - Technical and Financial Assistance to the Construction Contracting Industry in Developing Countries

** OMS 4.00 - Financing of Technical Assistance and Engineering

3.71 Which agency has the basic responsibility for implementing the project? Are other agencies involved in providing complementary inputs (intersectoral cooperation) essential for the success of the project? Who is responsible for the coordination of the entire project? What assurances should be received concerning participation and cooperation between the various agencies involved? A thorough analysis of the implementing agency (beneficiary of the Bank loan) should be located in another chapter and cross-referenced.

3.72 What is the competence of the agency's staff to plan and manage the construction of the project and what has been their previous role in the development of this project? What role will consultants

have to play in project implementation? Local or foreign consultants or joint venture? Have they already been engaged? What further actions need to be taken to engage project implementation staff or consultants? Terms of reference for consultants (actual or proposed) should be placed on the project file. If consultants have already been selected a statement that they are satisfactory to the Bank or such other comment as needed, should be made in the report. Man-month requirements and estimated costs should be provided, possibly in the detailed cost estimates.

3.73 Outline all remaining steps for implementation of all components of the project. When will final designs be available? When will bidding and construction start? When should the works be completed and operational? Refer to the network diagram (or similar chart) which indicates the responsibility and all actions essential for project implementation. This implementation schedule, covering all important actions by all involved agencies, should be discussed during appraisal and agreed during negotiations. The extent to which project implementation depends on loan effectiveness and related actions by other lenders should be emphasized.

3.74 How does the size and complexity of the project compare to the existing and potential capacity of the local construction industry? Has technical assistance to the local industry been considered in conjunction or in parallel with the project? What steps are recommended to provide further assistance to the local construction industry? Comment on the availability and prices of equipment and materials to be supplied locally and consider the possible impact of the project on such

supplies. Do local standards exist? Are they acceptable? How many workers are likely to be employed at various stages of project construction? What other employment will be created? To what extent is the poverty group expected to be employed?

3.75 What land has to be acquired for the project? By whom? How? When? What provisions will be made for resettlement of populations? What agreements are required? Do project cost estimates reflect all aspects of the land question?

3.76 What legislative or administrative approvals are required to permit implementation of the various project components? Review and record relevant legal documents. Has the project proponent begun to obtain all necessary authorizations to implement the project? What agreements are required at negotiations?

3.77 Who will be responsible and what are the prospects for effective operation and maintenance of all components of the project when construction is completed? How many new jobs will be associated with this operational phase of the project? What additional inputs are required to achieve the project's objectives? What agreements are required to ensure the satisfactory operation of the project?

3.78 What further program developments can be anticipated after the project is implemented? Is the agency already planning such future developments? Is another project suitable for Bank assistance possible? What arrangements are required to prepare subsequent projects satisfactorily? Should appropriate assistance from consultants be included in the present project?

3.79 ** OMS 3.80 - Safety of Dams

If the project includes or is dependent upon a dam, are suitable precautions planned for the review of the dam design and for periodic inspections by qualified experts during and after construction? What arrangements are planned for the maintenance of the dam and related structures?

3.80 Water Resources Aspects

** OMS 2.32 - Projects on International Waters

3.81 For projects where water availability or alternative water sources are issues, a quantified analysis of water resources is required. Projected water requirements (from all sectors served by the project) should be compared to water availability from alternative sources and the recommended development explained. Hydrological details should be provided and placed in an annex of the SAR or in the project file, depending on how significant the matter is.

3.82 For water supply projects, which agencies must authorize the abstraction of water from ground or surface water sources? Is the source controlled by more than one political entity? Is an international waterway involved? What agreements should be obtained, and when? Obtain copies of relevant legislation and regulations for early analysis, recording these in the project file. Note operating procedures for any reservoirs on which the project is dependent.

3.83 Is water quality an issue with respect to the project? For water supply projects, discuss any existing or foreseen problems and recommend action. For wastewater projects, what criteria govern treatment

processes and effluent discharges? Has water reuse been considered? Explain briefly, with supporting documentation in the project file.

3.85 Environmental and Health Aspects

** Environmental, Health and Human Ecologic Considerations in Economic Development Projects (World Bank Handbook, 1974)

3.86 What possible adverse effects can the project have on the environment of the country and on the health and well-being of its people? What measures have been or need to be taken to maximize the beneficial impact and to minimize potentially adverse effects stemming from the project?

3.90 Procurement

** OMS 2.40 - Procurement

** Guidelines for Procurement under World Bank Loans and IDA Credits (Booklet of March, 1977)

** OMS 2.41 - Advance Contracting and Retroactive Financing

** OMS 2.42 - Domestic and Regional Preferences in Bid Evaluation

** OMS 1.24 - Co-Financing

** CPM 7.2 - Rules to be Followed for the Comparison of Bids for Manufactured Goods

** CPM 7.4 - Domestic and Regional Preferences: Model Bid Comparison Clauses

** CPM 7.8 - Preference for Domestic Civil Works Contractors in Bid Evaluation

** CPM 7.11 - The Employment of Departmental Forces (Force Account) in Bank-Financed Civil Works and Other Construction Projects

** CPM 7.12 - Competitive Bidding in Accordance with Local Procedures: Issues, Procedures, and Examples

** CPM 10.5 - Payment Conditions in Contracts for Services by Consulting Firms

3.91 Which components of the project are to be built by contractors and which by the staff of the implementing agency (force account)? What range of costs are expected for the various contracts? Which are suitable for international competitive bidding, which for competitive bidding advertised locally and in accordance with local procedures and which for international or local shopping? Suggest cost limits for each type of procurement. Is standardization of equipment or spare parts an issue? Import licenses? Will any contracts be awarded prior to loan approval? Are regional or domestic preferences proposed? How successful are local firms expected to be in obtaining contracts? What assurances are required?

3.92 Outline any proposal for retroactive financing and explain why it is appropriate.

3.93 Where co-financing arrangements exist, what procurement practices will be followed for project components financed by others?

3.94 If the proposed organization of contracts is known, a <u>contract schedule</u> including target dates for all actions (tender document preparation, review, approval, bid period, award, etc.) should be

discussed during appraisal, agreed at negotiations and documented in an annex of the SAR.

3.95 Disbursements

** OMS 3.30 - Disbursement

** CPM 2.9 - Estimates of Disbursements

** Guidelines for Withdrawal of Proceeds of World Bank Loans and IDA Credits (Booklet of October, 1974)

** CPM 7.5 - Reimbursement of Advertising Costs for International Competitive Bidding

** CPM 7.15 - Statement of Expenditure - Field Review of Documents

** CPM 2.8 - Disposition of Surplus Loan/Credit Amounts

3.96 Determine the types of expenditures to be financed by the Bank loan and provide a summary table outlining the allocation of funds to various categories of expenditure. What would be the closing date of the loan? What should happen to any unspent portions of the loan? Provide an estimated schedule of disbursements on a quarterly basis for the Bank fiscal years in tabular form which can be used in an annex of the SAR. Where co-financing arrangements exist, show also the estimated disbursement schedule from other sources if readily available and of importance to project consideration. What arrangements are proposed for exchange of disbursement information between co-financing agencies? Indicate basis for Bank disbursements for indirect foreign exchange and local currency.

IV. FINANCIAL ANALYSIS

** OMS 2.25 - Cost Recovery Policies for Public Sector Projects: General Aspects

Historic and projected financial statements (income statements, balance sheets and cash flows) for the agency should be obtained. Also the assumptions for these projections. When presenting in the SAR, this section of the report should be limited to analysis of the financial situation and recommendations required for satisfactory performance.

4.10 Past Performance and Present Financial Position

4.11 Determine significant features of the financial history of the implementing agency and comment on its present financial situation. Has management been aware of the situation? Acted reasonably? Been inhibited by external or internal constraints?

4.20 Revenues & Tariffs

4.21 Outline the sources and relative significance of all types of revenues received by the agency. What changes have occurred in these revenue sources in recent years and why? For revenues not collected directly by the agency (e.g. property taxes), what is the means by which charges are set and by what process do they reach the project agency?

4.22 Explain the objectives which have been the basis for determining previous tariffs. Has the agency attempted to recover operating and maintenance expenditures? Succeeded? By what process have tariffs been set?

4.23 Explain and evaluate the present structure and levels of tariffs for water supply and/or waste disposal services, including connection charges. Do seasonal or other peak tariffs exist? Are minimum tariffs set on equity grounds? How have the tariffs changed over

the past ten years? Provide summary information in the report text in tabular form. More detailed information, if available, should be placed in the project file.

4.24 Outline the proposed objectives of policies affecting future revenues for the agency, particularly tariffs. Explain the relationship between the economic pricing considerations discussed previously (provide cross-reference) and the proposed tariff objectives. Are those objectives reasonable on financial grounds? Dictated by considerations of income distribution or other non-financial criteria? Is further study required on this matter? What actions should be taken to change these existing tariffs, either the structure or certain levels of tariffs? Which actions should take place prior to negotiations and what assurances are required during negotiations? Provide a summary table showing expected tariffs in the years ahead. Supporting information should be placed in the project file.

4.25 If significant project benefits are claimed in addition to those for which tariffs are a proxy (see chapter on economic analysis), what means have been considered to permit the implementing agency or other parts of the Government to capture some or all of the associated financial benefits?

4.30 Future Financial Performance

4.31 Note interesting or unusual features in the financial projections. Summarize information in tabular form, including financial indicators such as rates of return on net fixed assets, debt service coverage, debt/equity ratios and internal cash generation as a percentage of

future capital requirements. To what extent should such indicators be used as targets for financial performance?

4.32 If previous Bank loans have been made to the agency, what financial covenants exist and how effective have they been? Explain what financial covenants should be agreed for the current project. If assets should be revalued periodically, explain the basis for their revaluation. Note financial covenants with other international agencies (IDB, ADB, ASDB).

4.40 Financing Plan

Provide and comment on the agency's financing plan (sources and application of funds) for the disbursement period of the Bank loan. Does the project agency intend to finance any or all of the costs of new water supply and/or sewerage connections? The financing plan should cover the implementing agency's entire work program, including the project (whose financing plan is discussed earlier in the report). Should the Bank be concerned about levels of capital expenditure in the program or about sources of finance outside the project? If Government contributions are expected (debt or equity), what assurances are needed to ensure that they will be timely and not impede project progress? Apart from the project, are there other sources of external finance? What assurances are required?

4.50 Monitoring and Evaluation Criteria

** OMS 3.50 - Project Supervision

** OMS 3.55 - Project Monitoring and Evaluation

** GAS 3 - Guidelines for Project Monitoring System for Public Utilities Projects

** OMS 3.58 - General Guidelines for Preparing Project Completion Reports

4.51 Outline existing or proposed reporting requirements, to be confirmed at negotiations, designed to keep project agency management and the Bank informed of progress on the project. These reporting requirements should be included in the project file. What arrangements are appropriate for exchanging such information with co-financing agencies?

4.52 Is a special monitoring system necessary in addition to the regular reporting requirements? Can these two information systems be combined? If special monitoring is appropriate, project-specific indicators must be defined and agreed. To assist evaluation, the criteria ought to be closely related to the quantified project objectives. Targets should be set for all monitoring criteria, which should be the subject of a separate annex to the SAR.

4.53 Who will prepare the Project Completion Report? When? How? What agreements are required?

V. THE IMPLEMENTING AGENCY

** OMS 2.30 - Organization and Management of Project Entities

** CPM 8.2 - Sector Lending

If more than one agency will receive a portion of the Bank loan (i.e. two or more beneficiaries), each agency should be examined and reported on. Explain the choice of borrower and if different from the implementing agency, the arrangements and the reasons.

5.10 Lending Arrangements

** OMS 1.25 - Choice of Borrower and Contractural Relationships with Guarantor, Borrower and Beneficiaries

** OMS 1.20 - Payment Terms of Bank Loans and IDA Credits

5.11 For the Bank loan, propose the lending arrangements, loan amount and terms, including any onlending arrangements. Specify the proposed legal arrangements with the Bank and any others relevant to the loan. Outline all legal relationships between the borrower and the agency (or agencies) receiving the loan and between the various agencies involved.

5.20 Organization

5.21 What is the historical background of the agency? What is its legal basis? Comment on any noteworthy points in its legislation and regulations (copies of which should be placed in the project file). Make recommendations for any changes required to permit the agency to accept the Bank loan or to implement the projects.

5.22 Does the agency have any activities other than water supply and/or waste disposal? Explain. Discuss the agency's working relationships with others in the sector.

5.23 How autonomous is the agency? Analyze the policy-making and decision making process in terms of the organization chart (which should be provided in an annex). If the agency is very large or regionally dispersed, comment on the effectiveness of the various operating units and the relationships between them. How will the project be

implemented in terms of the organizational arrangements? Recommend any changes required in the structure of the organization and discussed with and generally agreed to by the executing agency.

5.30 Management and Personnel

** CPM 2.11 - Guidelines on Training in Bank/IDA Projects

** PUN 28 - Manpower Development and Training in the Water Sector - Responsibilities of the World Bank

5.31 How is the senior management selected? Comment on the existing senior management in terms of professional qualifications, relevant experience and past performance. Are any changes currently planned? How would the agency be affected by the loss of one or two key managers? Are there enough qualified managers? What are the prospects for obtaining additional or alternative managers if necessary? Can the existing management cope with the additional responsibilities associated with the project?

5.32 Evaluate the quantity and quality of professsional staff (engineers, accountants, administrators, etc.) below the level of senior management. If more or better professional staff are required, are they available within the country and can the agency succeed in attracting and retaining them? What use is made of expatriates? Of consultants? Are present arrangements satisfactory? Suitable for an expanded workload? Make recommendations for any necessary technical assistance.

5.33 Compare the total number of employees, by categories, with the agency's present and future requirements, including project activities. Is recruitment, overstaffing or turnover a problem? How does the staffing level compare with that of similar agencies within the country and elsewhere? Is the management able to hire and fire as required? Have the relationships between management and staff been satisfactory in the past? Should a future staffing plan be agreed?

5.40 Manpower data

Obtain data on existing manpower, projected needs and wastage rates at various levels within the entity? Have these data been used effectively in project design?

5.42 Obtain Information on local training resources and how used?

5.43 Training methods and approaches

Do training components take account of both short and long term training needs?

5.44 Is training related to the work environment? Or too remote, and overly centralized?

5.45 Is there provision for follow-up and continued reinforcement of training at the workplace?

5.46 What training methods (e.g., on or off-the-job, secondment, study tour, counterpart, updating/refresher/retraining) considered?

5.47 What approach are to be used and what arrangements have been made to insure that the program will be on going?

5.48 In the light of the foregoing data and analysis, Evaluate the manpower development policies and practices in the light of requirements of the

agency and of the sector nationally. How do training programs and facilities within the agency and within the sector compare to the needs? Has this topic been adequately examined by national or international experts? What action is recommended, as part of the project or through parallel programs, to deal with personnel shortages likely to affect the project and future developments within the sector? Relevant background information and proposals should be documented in the project file.

5.50 Management Systems

5.51 Evaluate the various systems (planning, budget, accounting, purchasing, information, billing, collections, etc.) and indicate whether or not they are satisfactory. How well do these systems keep management informed of physical and financial progress and permit management to foresee trends and possible problems? Financial planning and control procedures merit particular attention. The individual systems need not be described in detail except as necessary to explain any recommended changes. The means by which such changes are to be implemented need to be made clear. If management consultants are required, their terms of reference should be developed here and placed on the project file.

5.60 Audit and Insurance

** OMS 2.31 - Audits of Project Entities' Accounts

** GAS 9 - Illustrative Audit Report for a Power Company

** CPM 4.5 - Insurance Factors in Project Appraisal and Supervision

** GAS 12 - A Report on Public Utility Insurance and Practice

5.61 Assess present arrangements for auditing the accounts. Are they satisfactory? If not, recommend changes. Differentiate between the different types of audit (e.g. municipal, national, external, internal, etc.).

5.62 How suitable are the agency's insurance arrangements for the existing and future phases of its activities, including construction and operation of the project? Recommend any necessary agreements.

VI. ECONOMIC AND SOCIAL ANALYSIS

** OMS 2.21 - Economic Tests of Project Acceptability

** CPM 2.18 - Non-Quantification of Benefits in Project Appraisal

** GAS 10 - Economic Evaluation of Public Utilities Projects

** GAS 13 - Guidelines for Economic Evaluation and Financing of Sewerage Projects

** GAS 14 - Shadow Pricing and Evaluation of Public Utility Projects

** "Village Water Supply. Economics and Policy in the Developing World"; Saunders and Warford, 1976

** PUN 20 - Measurement of Health Benefits of Investments in Water Supply

** CPM 2.13 - Treatment of Foreign Exchange Effects in Project Appraisal Reports

** CPM 2.14 - Treatment of Employment in Project Appraisal Reports

** CPM 2.15 - Economic Analysis of Projects with Foreign Participation

** CPM 2.16 - Treatment of Price Changes in Rate of Return Analysis

In the past, appraisal reports in this sector generally included a chapter titled: "Justification" which dealt principally with three topics: the demand forecast, the least-cost method of meeting the predicted demand and an estimation of the internal economic rate of return. In the present SAR format the demand forecasts are presented earlier, ahead of the chapter about the project. This chapter of the report sets out to persuade the reader that the proposed loan is sensible on economic and social grounds.

6.10 Project Benefits

6.11 The principal economic and social benefits of the project should be determined and listed, preferably in order of importance, and discussed in qualitative terms. These benefits should be related to the previously outlined project objectives. To the extent possible the discussion should focus on benefits from the project rather than from the entire investment program. Possible benefits include meeting the basic needs of the poverty group, improvements in public health, increased labor productivity, enhanced property values, environmental improvements, institution building, additional tourism, fire protection, etc. If the project includes a reservoir there may also be benefits resulting from multipurpose use of the reservoir (flood control, irrigation, hydropower, navigation, fishing, etc.).

6.12 Possible social costs should also be considered, for example, dislocation of population and loss of agricultural production due to land requirements of the project, traffic delays caused by construction, aggravated wastewater disposal problems caused by increased supplies

of water in the project area (unless a waste disposal component is included in the project), etc. Discuss ways social costs are being minimized.

6.20 Least Cost Solution

6.21 Determine that the selected project components are the most economic alternatives to meeting the project objectives. One alternative, which should be explicitly considered, is to do nothing. Different alternatives for constructing system components in stages should also be evaluated. The discount rate used in such calculations should be specified. The results of the analyses should be summarized and background information provided in the project file.

6.30 Rate of Return and Pricing Considerations

** PUN 11 - Urban Water Supply and Sewerage Pricing Policy

** PUN 12 - Lahore Water Supply - Tariff Study

** PUN 23 - Bangkok Water Supply - Tariff Study

** PUN 24 - Public Utility Pricing and Inflation

** PUN 27 - Water Rates in Developing Countries

** PUN 29a - The Costs and Benefits of Water Metering

** GAS 13 - Guidelines for Economic Evaluation and Financing of Sewerage Projects

** World Bank Staff Working Paper No. 259; Alternative Concepts of Marginal Cost for Public Utility Pricing: Problems of Application in the Water Supply Sector.

6.31 In those rare cases where project benefits can be reasonably quantified, the internal economic rate of return (IER), should be calculated. All costs associated with the project should be considered, including costs of complementary inputs by the implementing agency and others, future operating costs and possible social costs (to the extent that these can be quantified). Costs and benefits should be in constant prices and shadow valued. Details should be provided in the project file.

6.32 The internal financial rate of return (IFR) should also be estimated. Such a calculation, using incremental revenues, based on current tariffs, in the "benefit" stream, highlights the relationship between the prices charged for the services provided and the incremental costs of supplying more such services. It therefore indicates the extent to which the observed willingness of consumers to pay can be used as a test of project justification. Where substantial changes in prices are envisaged, another IFR calculation, this time incorporating the proposed changes in the benefit stream, should be present. While providing no evidence about project justfication, this IFR defines the relationship between price and long-run marginal cost (typically approximated by average incremental cost) that is expected to prevail at some future date. As with the IER, costs and benefits should be at constant prices and shadow valued. Since the appropriate rate of return measure varies greatly across projects, the terms IER and IFR should never be used without an accompanying explanation of their calculation and meaning.

6.33 In cases where the project consists of a relatively small portion of a much larger program, it is difficult if not impossible to evaluate the benefits or incremental revenues associated with the

project. In such cases the IER and IFR should be calculated for the entire investment program, as for a time slice over a 5 or 10 year period, using associated investment and operating costs and revenues over the life of project facilities.

6.34 The nature of the expenditures involved in calculating the long run marginal costs should be qualitatively explained (and documented in the project file). The structure and levels of existing and future tariffs should be discussed in comparison with these long run marginal costs. Is it an objective of the project to cause tariffs to approach the long run marginal costs? If not, why not? Do social, financial or other economic goals conflict with a pricing policy based on long run marginal costs? How can the country's planners judge the willingness of consumers in this sector to pay for the services provided by the project?

6.35 Where a project includes both water supply and waste disposal components, separate calculations of the long run marginal costs should be made for each and compared with tarrifs.

6.40 Impact on Poverty Group

6.41 The impact of the project on the poverty group should be assessed qualitatively and quantitatively, including:

- number of beneficiaries as a percentage of the total population;
- poverty group consumption as a percentage of domestic consumption (for water supply project);
- percentage of project expenditures associated with services for the poverty group.

Lower unit costs for lower standards of service mean that the impact on the poverty group is not proportional to water consumption or project expenditures.

6.42 Are the project services affordable by the poverty group? How are the tariffs and connection charges designed to meet basic needs at affordable prices? If possible, discuss tariffs for the poverty group in terms of their income. Analyze advantages (or disadvantages) of cross subsidization within the tariff system.

6.50 Project Merit and Risks

** CPM 2.7 - Sensitivity Analysis

6.51 Succinctly summarize why the project merits a Bank loan.

6.52 Reiterate the IER and/or IFR calculated in the economic analysis. Provide a summary of the sensitivity of the rate to changes in the basic assumptions (and provide the details in the project file).

6.53 Make explicit reference to any technical, commercial, financial, political, administrative, ecological or other risks or uncertainties associated with the project and discuss their possible impact on project implementation and benefits. Quantify such risks and their impact to the extent possible. If there are no special risks, a statement to that effect should be presented.

VII. Agreements (to be) Reached and Recommendations

** OMS 1.25 - Choice of Borrower and Contractual Relationships with Guarantor, Borrower and Beneficiaries

** OMS 2.00 - Procedures for Processing Loans and Credits (to be issued)

** OMS 3.18 - Loan/Credit Contractual Documents

** CPM 6.1 - Loan Documents

** CPM 6.2 - Loan and Credit Contractual Relationships

7.10 During appraisal opportunity should be taken to exchange views on actions needed and possible recommendations. The SAR summarizes the conditions for making the loan. Standard clauses are routinely prepared by the Legal Department but project-specific conditions must originate in the appraisal report. In the final buff-color edition of the SAR, the wording, particularly verb tenses, must be changed to reflect the agreements which were in fact reached.

7.12 Details of each recommended assurance (substance, party, timing, etc.) are to be provided in preceding chapters of the text, following the relevant analysis of the related project issue. In the interests of brevity, the complete recommendations need not be repeated in this chapter. Instead all agreements to be reached should be summarized and presented in groups, according to the proposed party to the agreement (Government, implementing agency, etc.). Within each group the agreements should be subdivided in terms of proposed deadlines for the actions (prior to loan presentation, condition of effectiveness, etc.). Accurate cross-referencing is required to the paragraph in the text where each proposed action is explained and described in detail.

7.20 Recommendations

7.21 The final paragraph of the SAR recommends that a loan of a specified amount should be made on specified terms if the preceding conditions are agreed.

ANNEXES ** OMS 3.04

General

The report chapters, essentially self-contained and probably written separately by various members of the appraisal mission, should be designed to read fairly smoothly. Tables or charts occupying one full page or more disrupt the text and should probably be placed at the end of the report, with cross-referencing in the text. Smaller tables can be incorporated within the text.

Material needed by typical report readers, to support analysis in the report text, should be placed in an annex. Other background material, of limited interest to the general readers of the report, should be placed in the project file, and outlined in the last annex of the report.

Appraisal staff may elect to create a project implementation document for use by Bank staff supervising the project and staff of the implementing agency, the Government and possibly the consultants. This project implementation document would consist of selected items in the project file which would be copied and bound together for use in conjunction with the SAR during project implementation and supervision.

Following is a list of possible annexes to be included in a typical SAR. It will be noted that the Loan and Project Summary document is not shown here because it actually is a separate paper prepared initially at the time of the decision memorandum and finally appearing in the President's Report. It should accompnay the SAR but is not a part of that report.

Typical Annexes

1. Past and Projected Population, Water Demand and Water Production
2. Project Description and Basic Data

3. Project Cost Estimates
4. Network Diagram for Project Implementation
5. Contract Schedule
6. Schedule of Estimated Disbursements
7. Organization Chart of Implementing Agency
8. Financial Projections
9. Assumptions for Financial Projections
10. Monitoring Criteria
11. Supporting Tables and Charts
12. Selected Documents and Data Available in the Project File (always the last annex)

Project Data Table

(under preparation)

Last Annex: Selected Documents and Data Available in the Project File

The recommended format for this annex, to be common to SAR's in all sectors, is outlined in Annex B to OMS 3.04. Following is an example of how this report annex might appear for a project in the water supply and waste disposal sector.

A. Sector Reports and Studies by Others

A.1 - WHO/IBRD Water Supply and Waste Disposal Sector Study for (Country)

A.2 - National population statistics, projections and relevant analyses

A.3 - Published data on public health indicators relevant to water sector (infant mortality, life expectancy, morbidity

statistics re gastro-enteric or other water-related diseases, etc.)

A.4 - Socio-economic data re poverty target group

A.5 - National data on tariffs for water supply and waste disposal services

A.6 - Manpower studies and/or training programs for sector

A.7 - Reports relating to local construction industry capacity and potential

B. Project-Related Reports and Studies by Others

B. 1 - Population estimates and analyses for the project area

B. 2 - Analyses of resource base or development prospects of project area

B. 3 - Land use master plans for project area

B. 4 - Estimates of demand for sector services in project area

B. 5 - Master plans for sector services

B. 6 - Feasibility studies, design report or other technical documents relating to sector services and project components.

B. 7 - Loan request for proposed project and supporting documentation

B. 8 - Legislation and regulations relating to water resources allocation, water quality control, etc.

B. 9 - Legislation and regulations relating to implementing agency and other relevant institutions

B.10 - Documentation on poverty group in project area

B.11 - Sector programs supported by other external agencies

C. Documentation Prepared by Bank Staff or Consultants

C. 1 - Chronological record of project missions

C. 2 - Description and analysis of existing sector services in project area

C. 3 - Basis for staff estimates of population and demands for services in project area

C. 4 - Technological alternatives considered for project

C. 5 - Hydrological analysis of water sources

C. 6 - Basis for project cost estimates

C. 7 - Terms of reference for tasks of consultants

C. 8 - Analysis of existing and future staffing levels of implementing agency and related training programs

C. 9 - Details of past and projected future tariffs for sector services in project area, including rationale for estimates

C.10 - Reporting requirements for implementing agency

C.11 - Discussion and calculation of least cost solution

C.12 - Rate of return methodology and calculations

C.13 - Long run marginal costs

C.14 - Details of risk analysis and sensitivity tests

PHOTOGRAPHS

There may be occasions where black and white photographs can complement the report by making particular situations more vivid for the reader. Only photographs which clarify project-related matters should be considered: routine descriptive or touristic photos should be avoided.

Each photograph should be clearly numbered, titled and dated.

MAPS

** CPM 3.7 - Presentation of Maps

Elements to be displayed in one or more maps should include the location of the project area relative to the rest of the country: political or administrative boundaries relevant to the implementing agency or others concerned with the project; important topographic features (rivers, lakes, mountains, etc.); main transportation facilities (airports, harbors, railways and roads); major existing sector facilities (water supply and/or waste disposal); major project components (in red for emphasis); location of the target poverty group; and areas to be served by project facilities.