

DESIGNING WATER & SEWERAGE OPERATING CONTRACTS: TEMPLATES FOR COUNTRY TEAMS

This set of templates is used to organize the design process. Record your team's ideas on relevant topics in the templates. The forms prepared for each design session are intended to guide you through some of the major questions that need to be answered in designing an effective contract strategy. All topics and questions do not need to be completed; please complete the ones that are important for your specific operating contract design.

Design Session 1: Target Locations and Objectives

Design Session 2: Key Design Problems and Challenges

Design Session 3: Operator Compensation, Performance Targets, and Incentives

Design Session 4: Basis for Tendering and Award

Design Session 1: Target Locations and Objectives

During this session you will define the service area(s) for which you plan to design an operating contract and the key performance objectives that you wish to achieve. Some questions are provided to guide you through this exercise; however, please feel free to provide any additional information that you believe is important to provide a clear picture of the current conditions and issues in the target locations.

1.1 DEFINITION OF SERVICE AREA:

Where will you use an operating contract?

(Mozambique Team used the Maputo concession as a case study, rather than designing a new operating contract).

a. Name/location of service area:

Maputo

b. Description of customer service base (number of residential/commercial/industrial):

c. Current coverage (% or number of connections):

d. Description of current institutional arrangements of the water utility:

Who owns the assets?

Who currently manages the assets?

Who is responsible for business management (billings, accounting, customer service, etc.)?

If there is an independent regulatory body, please identify:

e. Additional information:

1.2 SUMMARY OF KEY PROBLEMS TO BE SOLVED:

What key problems do you want to solve? Please describe the extent of the problem, e.g., current % of nonrevenue water. Examples of problems that you may wish to address are provided:

- High nonrevenue water
- Intermittent service
- Low billings and collections
- High degree of customer complaints
- High operating ratio (total expenses/total revenues)
- Low percentage of connections, etc.

1.3 STATEMENT OF PERFORMANCE OBJECTIVES:

Based on the current situation in the target service area and key problems that you want to solve, list your highest priority objectives (please provide no more than six objectives). At this point, you do not need to establish quantitative objectives. Instead, the objectives should be broad statements of the most important accomplishments to be achieved through operating contracts, for example:

- To achieve full recovery of operation and maintenance costs
- To make significant improvements in physical assets
- To increase the number of service connections
- To improve the quality of service to existing customers

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 1

1. Definition of service area:
 - Location/Name
 - Key Characteristics (customer service base, current coverage, institutional arrangements, etc.)
2. Key problems to be solved
3. Statements of performance objectives

Design Session 2: Key Design Problems and Challenges

During this session you will identify key obstacles and risks that may complicate or impede the contracting process. You will also develop a framework to reduce these risks by including special provisions in the contract and by allocating the risks among the contracting parties to those that are most able to bear them.

2.1 SPECIAL ISSUES TO BE ADDRESSED IN THE DESIGN

a. **Tariffs:**

What are the current tariff levels and structure?

There are three tariffs

1. Domestic consumption (household connections)
0 – 5 Fixed rate
6 – 10
11-20
21-30
≥ 31
2. Industrial consumption
3. Commercial and services

Are tariffs too low to cover operating costs? Are they too low to provide incentives to serve the poor?

Yes they cover OC

The tariff already cater for the poor

Do you have any specific tariff-setting objectives?

Yes.

Can you adjust tariff levels to cost-recovery levels?

Yes. In a gradual way.

Can you eliminate or reduce cross-subsidies?

No. The cross-subsidy is already in the law.

Can you raise tariffs to the poor to levels that are attractive to service providers?

Yes. Within a level acceptable to the poor and approved by the regulator.

b. **Investment needs:**

Does the system require a large amount of investment?

In the short-term the system does not require large investments. However it does require large investments in the medium and long-term.

What kinds of investments are needed (e.g., bulk water supply and treatment facilities and network expansion, etc.)?

In the medium and long-term all of them

c. Labor issues:

Do workers have unreasonably low wages now?

No.

Can workers be legally assigned to work with the contractor?

Yes.

Is it legally possible to provide bonuses to employees?

Yes.

Are employees likely to oppose the contract?

No.

d. Corruption:

Is corruption a major problem? If so, what kind of corruption?

Yes. Illegal connections.

e. Very bad service:

Are service levels unusually bad at the present time?

No.

What features of service are considered to be very bad?

Payment system (few outlets).

f. Stakeholder mapping

Do all stakeholders (government, donors, and other support agencies) buy into the contractualisation process?

Yes.

Does the contractualisation process fit into the overall sector-wide reform strategy?

Yes.

How does the contractualisation process promote effective sector governance (anti-corruption and integrity programs, community outreach, communication and fraud prevention)?

Yes. Maputo will be zoned and a system will be put in place to detect illegal connection.

g. Please list any additional special issues that you believe may pose serious obstacles or risks to implementing operating contracts:

1. The cost of electricity in the country and sub-region is increasing and that will raise operating costs which will result in higher tariffs.
2. Small private water suppliers pose a challenge to new connections after in the just completed network expansion program. This will affect investment recovery by FIPAG.

2.2 UPSTREAM POLICY NEEDS

Is there any need to revise laws or policies as preconditions for the operating contract?
These could include:

- Water legislation
- Sanitation/environmental legislation
- Corporate/contract law
- Regulatory framework
- Licensing framework

Yes. Only for the licensing framework.

2.3 STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT) ANALYSIS

The matrix on the following page provides an organizing tool with which to identify strengths, weaknesses, opportunities, and threats and re-allocate risks among the contracting parties as needed. An example from an actual operating contract application (provided by Uganda NWSC) is provided as a guide.

SWOT ANALYSIS (see next page for example)

FUNCTION	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Bulk water	<ul style="list-style-type: none"> - Treatment plant was recently rehabilitated and capacity increased to meet the expanded distribution. - Well qualified staff 		<ul style="list-style-type: none"> - Government and donors support investments 	<ul style="list-style-type: none"> -Fluctuating power supply that damages equipment; - Large investments required to meet demand in the medium and long-terms.
Customer Services	<ul style="list-style-type: none"> - Billing system was computerized; - Good customer complaint handling system 	<ul style="list-style-type: none"> - Few customer care service centers; \ - Inadequate customer care orientation; - Irregularities in meter readings and billing 	<ul style="list-style-type: none"> - New training institutions are releasing customer care staff into the market; - Concessionaire can improve its reputation by providing 24/7 water. 	<ul style="list-style-type: none"> -Failure of telecommunications affecting computerized systems
Investments in the sector	<ul style="list-style-type: none"> - Investments in the system are already done 		<ul style="list-style-type: none"> - There is a supportive environment in the country for 	<ul style="list-style-type: none"> - Risk of not being able to raise required funds at attractive terms.
Water losses	<ul style="list-style-type: none"> - Very low water losses in the system due to recent network rehabilitation; - Good response time - Totalizer meters being installed in condominiums to cater for water not captured by household meters 	<ul style="list-style-type: none"> - Parts of the system are still with old pipes prone to leaks; 		<ul style="list-style-type: none"> - Low quality pipes used by customers in their connection, with high risk of leaks;

Example of SWOT Analysis – Uganda National Water and Sewerage Corporation, Jinja Service Area

Function/Business aspect	Strengths	Weaknesses	Opportunities	Threats
Distribution	<ul style="list-style-type: none"> ✘ Some old, weak mains have been replaced. ✘ Monopoly of services delivery. ✘ Comprehensive network coverage. ✘ Competent and well-equipped workforce. ✘ Available basic equipment and personnel. ✘ Basic record of network available. ✘ 100% metering. 	<ul style="list-style-type: none"> ✘ Old, weak mains prone to bursts. ✘ Inadequate auxiliary structures; i.e. washouts. ✘ Hydraulic constraints. ✘ Disparity between field and reports made. ✘ Poor meter management. 	<ul style="list-style-type: none"> ✘ Unsaturated distribution coverage. ✘ Monopoly of service delivery. ✘ Availability of cheaper local alternative materials. ✘ Communication facilities. ✘ Goodwill from the public for mains extensions. ✘ Flexible budget. ✘ Local participation in infrastructural development. ✘ Political will to support development. ✘ Protection by local communities. 	<ul style="list-style-type: none"> ✘ Vandalism of service network. ✘ Technical impersonation. ✘ High cost of repair materials.
Water losses	<ul style="list-style-type: none"> ✘ Good response time. ✘ Many old mains are replaced. ✘ Replacement of key old, weak mains is already planned. ✘ District metering already done in most places. 	<ul style="list-style-type: none"> ✘ Lack of intensive patrol of the network for leaks and bursts. ✘ Lack of accurate documentation of the network. ✘ Partial district metering. 	<ul style="list-style-type: none"> ✘ Commitment of top management. ✘ Public goodwill / concern. 	<ul style="list-style-type: none"> ✘ Vandalism of the infrastructure. ✘ Illegal water consumption.
Maintenance	<ul style="list-style-type: none"> ✘ Adequate stock of basic maintenance equipment. ✘ PPM is put in place and followed. ✘ Adequate transport for maintenance work. ✘ Ability to locate all services network. 	<ul style="list-style-type: none"> ✘ Lack of mechanical equipment. ✘ Inadequate skills in maintenance field work. ✘ Use of rudimentary repair methods. ✘ Archaic technology in mains maintenance 	<ul style="list-style-type: none"> ✘ Local labour readily available. ✘ Commitment of top management. ✘ Commitment of customers. 	<ul style="list-style-type: none"> ✘ Inadequate of coordination in infrastructural development.

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 2

1. List of special issues that need to be addressed
2. List of upstream policy needs
3. SWOT matrix

4. Determination of the most appropriate form of contract (management contract, lease or affermage, or concession)

For Maputo the concession was the right contractual arrangement because:

1. It was in line with the sector policy and strategy,
2. Investment by government had just been done to rehabilitate and expand the bulk water and distribution systems to meet current and short-term needs for Maputo city;
3. The experience with the lease contract that was in place during the last 10 years provided the basis for the concession.

Design Session 3: Operator Compensation, Performance Targets, and Incentives

During this session you will identify performance targets and the associated incentives and compensation provisions for meeting and exceeding the targets.

3.1 SERVICE GOALS, TARIFFS, AND INVESTMENT FUNDING

a. Access:

What is the starting and ending level of coverage that is required?

Present coverage is 70% and targeted one is 85%

Where will the capital come from to increase coverage?

Mostly from Government and donors but also including private sector.

What types of connections will be provided?

Domestic, industrial and commercial, as well as standpipes for the poorest.

b. Water Supply Performance Targets:

(Please prepare your results in the table provided at the end of Section 3.1)

What are the current water supply quality levels and what are the target levels you wish to achieve, in light of your performance objectives?

For each target: What are the practical issues that stand in the way of achieving the quality targets? Will any of the targets require large amounts of investment? How will you weight each of the targets for purpose of bonus computation?

Following are illustrative examples of targets that you might want to consider:

- Hours of service per day
- Pressure levels
- Service coverage
- Nonrevenue water
- Environmental standards exceedances, etc.

In formulating performance targets, please consider the following:

- How many performance indicators should be put in the contract?
- Which performance measures are non-volatile and therefore provide stable bases for incentives?
- Is there a good record of historical performance with which to form a fair basis for target negotiations?
- Which performance areas are closer to best practice?
- Which performance targets might be most affected by exogenous factors?)

c. Wastewater:

Please provide similar information for wastewater collection and treatment targets, if applicable, in the same format as for the previous question.

d. Availability of Funds Required for Achieving Targets:

What investment funds are available?

Will an investment fund be established?

Where will the capital for wastewater facilities come from?

What subsidy funds are available?

Performance Targets for First Three Years of Contract (Water and wastewater performance targets)

Type of Target	Relative Weight (%)	Year 1 Target	Year 2 Target	Year 3 Target	Investment Required (Scale of 0 to 3)	Critical Issues
Hours of service/day	10	14	20	24	1	Timely completion of improvement works and end with water losses
Unaccounted for water (%)	20	38	30	25	1	Need to install meters, and to tackle illegal connections
Working Ratio (OM Cost/ Billing) %	30	80	75	70	1	Optimize use of installed capacity
Number of new connections	20	50000	75000	75000	1.5	Government (FIPAG + CRA) to reach agreement with small private water providers
Collection efficiency %	20	75	80	85	1	-Some government institutions are slow in paying their consumption. - time taken to resolve payment disputes; - Insufficient and inadequate distribution of payment points.
	100%					

3.2 TARIFF ADJUSTMENT, EXTRAORDINARY ADJUSTMENTS, AND RISK ALLOCATION

a. How are tariffs going to be adjusted?

What is the tariff setting method?

Concessionaire agrees tariff with the Asset Management Agency and the later negotiates new tariff with the regulator,

Will there be cost pass through rules?

No.

Will there be tariff indexation formulas?

Yes.

b. What happens if extraordinary adjustments are needed?

The concessionaire must negotiate with the AMA.

c. How are key risks allocated?

Financial risks, for example:

- **Operating cost risk:** The risk that operating costs are higher than expected
Operator
- **Commercial performance risk:** The risk that billing and collections will be lower than expected
Operator
- **Bulk water:** The risk that the volume or price of bulk treated water is not as expected
Operator
- **Capital funding:** The risk that capital funding is not available when expected, or that the interest rate is higher than expected, or that the amount is less than expected
Operator
- **Foreign exchange:** The risks that exchange rates fluctuate in ways that cannot be anticipated.

Operator but negotiable if exchange rates fluctuate beyond 20%.

- Other risks, as identified during SWOT analysis:

3.3 MANAGEMENT OF THE CONTRACT

- a. Who monitors the operator's performance?**

- b. Who enforces the terms of the contract?**

- c. Who monitors the government counterpart to the contract?**

- d. Who enforces the government's performance obligations?**

- e. Who resolves disputes?**

- f. Who adjusts tariffs?**

- g. Who adjusts service standards?**

3.4 TYPE OF CONTRACT, INCENTIVES, AND RESPONSIBILITIES

Based upon the preceding analyses, you will now work with your coaches to decide upon the most appropriate contracting strategy.

a. Type and duration of contract (management/lease/affermage/concession):

b. Types of incentives (tied to specific targets identified in Section 3.2 and to overall performance of contractor). See the following two pages for examples of incentive fees for management contracts and penalties for lease contracts:

To what extent will bonus fees or penalties be tied to individual performance targets, and to what extent will they be tied to overall financial performance of the utility?

How much of the net financial gain from good performance of the contractor are you willing to relinquish to the contractor?

Are staff motivated by non-financial incentives (such as recognition)?

What are the priority performance areas that must be central to incentive design?

How do we incentivize risk-taking?

Who must earn incentives and to what extent?

c. Allocation of responsibilities in contract implementation:

Operation and maintenance:

Capex (major capital works and capital maintenance):

Commercial functions:

Disconnection:

Theft and corruption:

Subsidies:

Public capital funding:

EXAMPLE OF INCENTIVES IN MANGEMENT CONTRACT (Uganda National Water and Sewerage Corporation – Jinja Area)

SIXTH SCHEDULE – JINJA AREA

COMPUTATION OF THE MANAGEMENT FEE AND INVOICE FORMAT

The monthly Management Fee payable to the Operator shall be the sum of the Base Fee, the Performance Fee and Incentive Fee due for a given month; and will be computed on the following basis:

Sno	Component	Computation Formula	Remarks
1	Base Fee ¹	$F_C + 0.75(C_C)$	Where: F _C = Non-controllable (fixed) costs C _C = Controllable costs
2	Performance Fee ²	$0.25(C_C) * [P/N]$	Where: P = The weighted number of service standards that have been achieved for the given month N = 100 = The total weighted number of service standards to be achieved
3	Incentive Fee ³	$X\% * [K + (OM_E - OM_O)] * [0.3WR_{pa} + 0.3UFW_{pa} + 0.2CE_{pa} + 0.2CP_{pa}]$ The formula is applicable only if: $OM_E > OM_O$	Where: K = A constant representing the level of incentive equity/subsidy extended to non-break even and/or "small" Areas OM_O = Minimum cash operating margin based on the agreed OPEX (Base Fee + Performance Fee) and the set Minimum Standard for collections. OM_E = The achieved cash operating margin during the month being evaluated X% = The agreed %age of the improvement in OM to be retained by the Operator as bonus. WR_{pa} = Percentage incremental achievement in the improvement of the Working Ratio UFW_{pa} = Percentage incremental achievement in the reduction of Unaccounted for water CE_{pa} = Percentage incremental achievement in the increase in Connection Efficiency CP_{pa} = Percentage incremental achievement in the reduction in the Collection Period

EXAMPLE OF PENALTIES IN AFFERMAGE CONTRACT (India – Latur Water Supply Scheme)

SCHEDULE H

SCHEDULE H– SERVICE LEVELS

A) Minimum service level:

- 1) It is the responsibility of the contractor to ensure and maintain the distribution system in such a way that, the consumer can draw water on an average at 100 LPCD with minimum @ 80 LPCD in supply hours. If there are public complains to MJP, MJP is free to measure the quantity of water supply at any remote connection. In such measuring, if it is found that some of the connections are getting less than required quantity of water, during supply hours, then if asked it is mandatory to the contractor to investigate the reasons and rectify them in such a fashion that consumers can get required quantity of water. The required repairing / rectification should be completed within 3 days of complaint at his cost. The required extension of existing pipeline upto 1 km. per year shall be the responsibility of the contractor. The required pipes will be supplied by the department free of cost. The cost of jointing material and labour charges shall be borne by the contractor.
- 2) The Executive Engineer-at his discretion or in response to complaints of short supply of water from Consumers in a particular area or zone shall assess the quantity of water supplied to the area or zone served by an ESR in accordance with the following:

The Executive Engineer shall assess the quantity of water supplied to the zone for a continuous period of 7 (seven) days. The quantity of water supplied to the zone shall be considered based on the daily meter readings on the outlet points of the ESR. The Average Daily Quantity shall be compared with the Benchmark Quantity assessed as under:

$$\text{Benchmark Quantity} = \frac{\text{Required Quantity}}{(1 - \text{Distribution Loss}\%)} + \text{Bulk quantity}$$

Where:

Required quantity (liters) = Number of households x 7 x 100

Distribution loss = Distribution loss for the ESR covering the area/ zone under evaluation calculated in accordance with Clause 11.3 for the pervious month

Bulk quantity = $\frac{\text{Actual consumption for the pervious month}}{\text{Number of days in the month}}$

In the event of Average Daily Quantity being between 70 to 80 % of the Benchmark Quantity then a penalty of Rs. 500/- (Five Hundred) per day shall be levied.

In the event of Average Daily Quantity supplied is between 50 to 70% of the Benchmark Quantity then a penalty of Rs. 1000/- (One thousand) per day shall be levied.

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 3

1. Key performance targets and associated investment needs and funding
2. Provisions for tariff and contract adjustments
3. Allocation of risks among contracting parties
4. Assignment of contract management and implementation responsibilities
5. Incentive structure

Design Session 4: Basis for Tendering and Award

During this session you will determine the key criterion upon which bidders will be evaluated and selected.

4.1 ELIGIBLE FIRMS

Do you want national firms to be favored?

Do you want to encourage joint ventures between international and local firms?

What experience in water and sanitation must bidders have?

What financial capacity must be demonstrated by bidders?

4.2 BASIS FOR SELECTING THE CONTRACTOR

What will be the relative weights of evaluation factors?

Cost/price:

Proposed technical approach:

Experience of contractor:

Commitment to performance targets:

Other:

4.3 EVALUATION OF TENDERS

a. Who will be on the evaluation panel?

b. Evaluation procedure (prequalification or two-step process?):

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 4

1. Determination of eligibility of bidders
2. Basis for contractor selection
3. Process for evaluation of tenders