



Hybrid Management and Maintenance Contract

Characteristics of a Traditional Management Contract

In a traditional management contract, a private company is hired to ensure continued satisfactory operation of the utility. Management contracts typically include both operational (i.e. management) activities and maintenance activities associated with typical wear and tear.

Characteristics of a Hybrid Management and Maintenance Contract

As in a traditional management contract, the contract assigns the management and maintenance of the water supply system to a private operator in exchange for a fee. One of the key objectives of this type of contract, however, is to achieve 24/7 service from intermittent supply. This requires investments to be made, which is not typically part of a management contract. So, aspects of both a performance based management and maintenance contract and a traditional design-bid-build model are combined to take advantage of the strengths of each model and optimize investment to deliver solutions that balance capital as well as operations and maintenance (O&M) expenditure. In this hybrid management contract, capital and operational expenditures are combined to balance the cost and reduce the risks (including non-financial risks) associated with each. The private operator, as the contract manager, plays a key role in deciding the components of the utility's capital development program, which is publicly funded. Yet it is also required to transition and maintain 24/7 service levels. Since the company is afforded the freedom to design the approach to improve services while managing the system on behalf of the government, a fair amount of freedom is granted to the company for specific design. This encourages the company to minimize its own operating risks by seeking the replacement of as many assets as possible, even where these are costly investments. As such, this contract was structured so that profits from operational savings as well as more efficient capital investments are shared between the public and private entities.

Payment structure: In a pure management contract, payments are based on a fee that combines a fixed component defined through the tender process and a performance-based component according to achievement of key performance indicators. On the other hand, in a typical concession contract, returns are maximized by generating revenues from investments defined and funded by the operator, provided operating costs are met. In this hybrid contract, in addition to the management fee, a gain share is paid to the Operator from a pre-defined capital expenditure ceiling if the 24/7 objective was achieved for less than the estimated amount.

Role of the private sector:

As with a traditional Operations and Maintenance contract, the private sector is responsible for performing the necessary managerial activities and minor repairs to provide adequate service. The activities associated with this responsibility may range from equipment repairs to ensuring accurate billing. An Operations and Maintenance contract would also include the operation of the treatment plant and distribution network to ensure both customer service and regulatory compliance. In the hybrid model, these activities are combined with what is typically a separate construction contract (also sometimes referred to as capital works).

In a traditional construction contract, the private sector contractor has full freedom to appoint sub-contractors since the contractor is accountable for achievement of milestones and the contractor would have already priced in the cost of such sub-contractors while preparing a bid. However, in this hybrid management model, the contracts for capital works would be awarded towards the end of the plant start-up period and throughout the transition period based on successive updates to a service improvement plan. The capital works are financed by the public-sector partner, but implemented through third-party contractors under the overall responsibility of the private operator. The capital efficiency gain share approach ensures that the operator's interests are aligned with that of the public sector; to optimize the capital expenditure.

Role of the public sector: The public sector finances the investments fully which are then managed by the private sector during construction and operations. The public sector continues to set tariffs and receives all the revenue collected from customers. The public sector then makes payments to the operator via an escrow account. The operator is paid a fee which is a combination of a periodic fee, an achievement-based fee, and performance linked fee. In addition, the public and private sector share a proportion of the savings resultant from the operator's efficient use of capital compared to the capex envelope, and the savings resultant from improved operational efficiency.

Key requirements: Several factors are key to the success of a hybrid management model. For both parties, the key incentive under a Hybrid Management and Maintenance Contract is the Operations and Maintenance fees. The performance fees are paid proportionally to the progress made towards the specified service targets. The operator profits most when it achieves maximum performance levels. Success of this hybrid model is also dependent on the public sector providing sufficient freedom to the operator in the selection and management of sub-contractors, and ensuring smooth procedural processes.

Case Study: Karnataka, India

The challenge: In the early 2000s, Karnataka's state government set out to achieve continuous (24/7) water supply in five demonstration zones in three cities. This was an extremely audacious goal given the existing supply of 10 hours per week at the project's inception. To achieve this lofty goal, significant improvements were needed on many aspects of the water utility. These included: non-revenue water reduction, increased operational efficiency, and capital improvements. Given the complexity of the problem, and the government's desire to address many problems simultaneously, the project lent itself to a hybrid management contract.

The solution: The private sector partnered with Karnataka Urban Water Supply Improvement Project (KUWASIP), the local water utility. In Karnataka, the assignment for the private operator was an Operations and Maintenance contract for the water supply system.

From the technical perspective, both capital and operational improvements had to be made. To do this, the project had to be structured for a relatively long period, which ensured service continuity and incentivized optimal investment and long-lasting assets at the citywide scale. A longer period also affords the private sector partner ample time to address any immediate issues and recoup costs over time. To ensure a transparent partnership, the government provided oversight and facilitated the financing of capital improvements for the private sector partner.

Hybrid management contract structuring and features: Since the government’s lofty goal would require a multi-pronged solution, the contract was set-up as a long-term and sustainable project. The contract was setup to be 12 years with three distinct phases:

- Start-up (1 year): A comprehensive assessment of the existing system; preparation and submission of the Service Improvement Plan for the city; and procurement of some advance third-party contracts.
- Transition (3 years): The private operator (PO) converts the current service to continuous pressurized water supply.
- Sustaining (8 years): The PO continues to operate and maintain the new system.

The performance-based aspect of the management contract ensures that the operator achieves certain key targets before the company is paid. The performance fee is linked to continuity of pressurized service, level of non-revenue water, resolution of customer complaints, and revenue collection efficiency. This is combined with the delegation of responsibility of contract management to the private sector partner who becomes responsible for designing and implementing the capital works program of the government through third party contracts to become a true hybrid model.

Finally, a public utility company was formed, which is fenced off from the general functions of the local government.

Aspect	Design	Detail or Rationale
Term	12 years	A shorter period: <ul style="list-style-type: none"> • was not realistic for a city-wide approach • will not incentivize development of optimal investment and long-lasting assets • is difficult to obtain skilled manpower for • will not motivate demand management • will not motivate either the public or private sector to target financial sustainability
Type	Hybrid	The contract is primarily a performance-based management contract where the operator is also responsible for designing and implementing the capital works program of the government through third party contracts.
Public Granting Authority Arrangement	Create a utility company under the 2013 Companies Act that the government will own 100%	The approach ring-fences the water supply operation from the general functions of the government. A company jointly owned by the public and private sector, which had precedents in the electricity and airport sectors, was rejected as this would be a major departure in the water sector, a more politically sensitive area.
Investment Financing	100% public funding: 75% from state and project resources; 25% from local government revenues and commercial	Although with the new tariff structure, the cost recovery of service will improve substantially, operating revenues will still not be able to fully cover operating and maintenance costs, much less commercial debt service and dividends (returns on equity) for private financing to be realistic.

Aspect	Design	Detail or Rationale
	<p>borrowing. ULB loans would be serviced by setting aside 35% of the untied transfers it receives from the state.</p>	
Operational Financing	<p>Introduction of a Capital Efficiency Gain Share</p>	<p>The private operator, as the contract manager, plays a key role in deciding the components of the utility's capital development program. Yet it is also required to transition and maintain 24/7 service levels. This may encourage it to minimize its own operating risks by seeking the replacement of as much assets as possible even where these are costly investments. The contract provides a capital expenditure envelope to the operator. If the operator achieves 24/7 service below the envelope, the PO receives 20% of the savings as a 'gain share.' The portion of gain share is higher if the transition is achieved earlier. The gain share is paid over the life of the contract and subject to maintenance of non-revenue water performance levels to avoid the savings being realized from deferred investments or investing in poor quality materials.</p>
Tariff Treatment	<p>Retained by the government</p>	<p>The State issued a tariff framework that is more in line with financial cost-recovery of service delivery. The tariff framework provides for an automatic escalation of 2% every year and this tariff framework includes switching to a volumetric charging basis with high levels of collection efficiency. User fees currently cover < 25% of operating cost. Recovery of O&M charges through tariffs are envisioned to rise over the sustaining period to cover between 75% and 94% of operating cost, primarily on account better collection efficiency (on average the collection efficiency of user fees is over 90% in the demonstration zones with continuous water supply as opposed to less than 25% in areas with intermittent supply) . Remaining deficits will be covered by ULB own revenues.</p>
Operator's Fee Structure	<p>Start-Up Stage: paid against milestones with 25% mobilization</p> <p>Transition Stage: 80% fixed, 20% performance-based</p> <p>Sustaining Stage: 60% fixed, 40% performance-based</p>	<p>The performance-based fee is linked to individual performance parameters: continuity of service, level of non-revenue water, resolution of customer complaints, and revenue collection efficiency. 50% of the performance-based fees are paid if PO achieves the required service levels. If PO does not achieve the minimum performance levels specified, the performance-based fee is not paid at all; and it is paid 100% if PO achieves maximum levels.</p>

Aspect	Design	Detail or Rationale
Penalties and Checks	Liquidated damages	<p>Start-up Stage: for delays in submission of milestone outputs such as the Service Improvement Plan</p> <p>Transition Stage: for delays in the construction and commissioning of works</p> <p>Sustaining Stage: for delays in making new water connections and for not achieving water quality targets</p>
Key Risks and Allocation	<p>Financial</p> <p>Public skepticism</p>	<p>Public financial risks are minimized via liquidated damages clauses, however the risk to the private sector is also minimized by ensuring that key issues and risks to the private sector are articulated at an early stage. In addition, use of public funding helps to keep costs lower for the private sector.</p> <p>A vital element of success was the creation of the Social Intermediation and Communication Strategy, which carried out baseline surveys to understand the environment for reform and concerns about the project. Another component was the creation of water user committees, which helped coordinate local citizen meetings and raise awareness because of initial resistance and skepticism to the project</p>
Procurement Strategy and Bid Parameter	<p>Two-stage bidding:</p> <p>Stage 1: Qualifications</p> <p>Stage 2: Financial Proposal</p>	<p>In the first stage, bidders were shortlisted if they exceeded a threshold of technical and financial capacity, considering:</p> <ol style="list-style-type: none"> 1. Experience as an Operator or a Management contractor in a city (or cities) providing continuous supply and other services as required in this contract 2. Experience in design and project management of water supply distribution projects 3. Experience in developing systems required for utility operations 4. Minimum net worth 5. Positive net cash accruals in three out of last five years <p>In the second stage, shortlisted bidders are evaluated on a single financial criterion. The bidder with the least net present value of the operator fee during the life of the project is selected.</p>
	Associations Restrictions	<p>Bidders were allowed to bid individually or as a joint venture. The lead member is required to have experience in water supply operations and satisfy at least 50% of the net worth criteria. If the lead member seeks to be pre-qualified based on the strength of the parent company or associate, a guarantee needs to be given by the parent company.</p>

Result: The pilot study for this project proved that with a significant change in the management approach to consumers, to billing, and to revenue collection, 24/7 continuous and metered water supply

is achievable even in the poorest areas. All five zones met the objective of 24/7 supply, and the number of connections increased by 50%. Overall, there was a five-fold increase in revenue billed and approximately a seven-fold increase in revenue collected. Households are now consuming a significantly higher amount of water per capita compared to before the project, which is expected to improve household hygiene. In spite of higher household consumption, the total amount of water being supplied was reduced by 10% due to the dramatic improvement in water losses. Non-revenue water, which was above 40% in the demonstration zones, was reduced to between 6% and 18%. The demonstration zones recover 80% of the operating costs. Good customer service was also a major improvement, with a new requirement for the operator to rectify customer complaints within a contractually stipulated time. Most notably, the pilot study resulted in proceeding to a subsequent phase, which is currently underway.

Discussion:

- What are the advantages and disadvantages of the Hybrid model versus a traditional model?
- What are the indicators of likely contextual success of this model?
- What modifications can be made to a Hybrid model to better fit within a given local context?