

PPP Case Study 2

Lagos Water Corporation

I. Your Task

Your group constitutes a team sent from USAID's EGAT Bureau at the request of USAID/Nigeria to Lagos, Nigeria. Your team's task is to advise USAID/Nigeria's mission management on the position the mission should take vis-a-vis efforts to deal with the Lagos water situation described below. You have been in country three weeks and are scheduled to meet with mission management tomorrow to deliver your recommendations. Please review the information below, discuss the materials within your group, and come up with a well justified set of recommendations to improve the supply of potable water in Lagos.

II. Background

Currently, the state-owned Lagos State Water Corporation (LSWC) manages the water and sewer system, with the charter to produce and distribute drinking water to the population of Lagos State. LSWC has the legal monopoly for distribution on public pipe networks and produces about 80% of all drinking water in Lagos. However, only 30%-35% of the population have access to piped water, the remainder obtaining water from private sources (private wells) or from intermediaries (tankers and street vendors), who resell water originating mainly from LSWC's production sources.

Unaccounted-for-water (i.e. water that is lost via leakage or theft) at LSWC is exceptionally high. But it is believed that efficient production, distribution and maintenance techniques, combined with proper billing and collection systems would lead to substantial service improvements. The corporation currently has 108,000 registered connections, and a recent enumeration exercise funded by KfW identified an additional 32,000 unregistered connections. The price of water to consumers ranges from very low, when charged by LSWC (about half the official rate because of the flat rate billing system), to very high, when charged by intermediaries (up to ten times the official volumetric rate in the case of street vendors).

Key statistics for LSWC include the following (data for more recent years are still being compiled):

- Gross Revenues in 2001: \$12 million
- Actual Cash Collected in 2001: \$9 million
- Total Cash Costs in 2001: \$33 million
- Pension Fund Cost Not Paid in 2001: \$1 million
- Interest Costs Excluded from Income Statement 2001: \$6 million

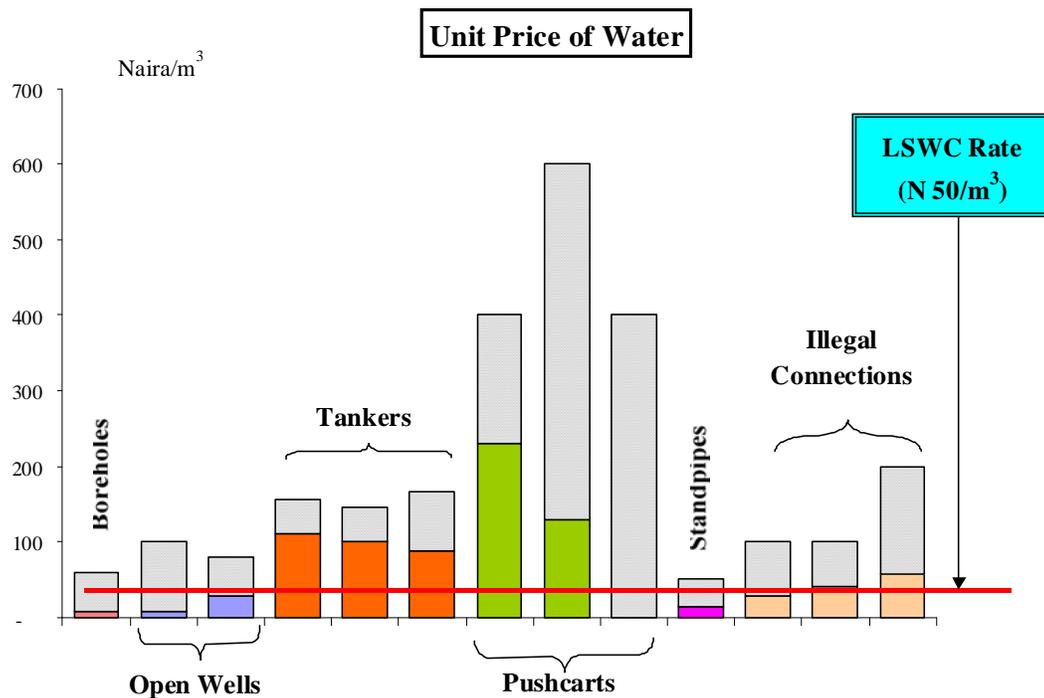
- Estimated Additional Maintenance Costs Needed 2001: \$2.4 million
- Unaccounted for Water 1998: 96%
- Unaccounted for Water 2001: 78%
- Total Registered Connections, 2001: 108,000
- Estimated Illegal Connections, 2001: 32,000
- Estimate of New Connections Needed for 90% coverage: 500,000
- Average Annual Connection Growth, 1990 – 2002: 6,000
- Total Outstanding Contingent Liabilities: \$60 million

Source of Water	% Households using the source
Street vendors	37%
Yard wells	30%
Yardpipes	14%
Public standpipes	10%
House connections	6%
Tankers	3%
Total	100%

USAID Nigeria recently commissioned a water supply review as an input to the new design. The consultants found that there have been 9 donor funded activities since 1990 assisting LSWC in performance improvement. These included:

- A \$230 million IDA loan for making 30,000 new connections, rehabilitating secondary and primary network, sectorization of two sectors, and building a new headquarters building.
- A \$20 million loan and \$5 million grant from KfW for metering pilots, technical training, laboratories, purchase of energy efficient pumps and replacement of deteriorating control valves.
- A \$50 million loan from the African Development Bank for rehabilitation of tertiary distribution networks.

- A \$2 million grant from DFID for financial planning, tariff modeling, and commercial system development.
- A \$1.8 million technical training program related to O&M, inventory management, and leak detection and repair in poor communities funded by the EU.
- A \$2.1 million grant from UNICEF for slum connection and metering pilot projects.
- An \$80 million IDA loan for construction of 3 advanced primary wastewater treatment plants.
- A \$250,000 grant from DFID for capital project planning assistance.
- A \$7 million emergency capital loan from the EBRD for reconstruction of three water intake structures and a section of primary transmission line.



A health baseline status report prepared with USAID assistance indicated four important facts:

- Only 30% of Lagos State's population have access to household connections or yard pipes. The large majority of slum dwellers buy a combination of stolen LWC water from tankers and cart vendors, and well water from well owners. Average price paid for stolen water is \$1.60 per m³.

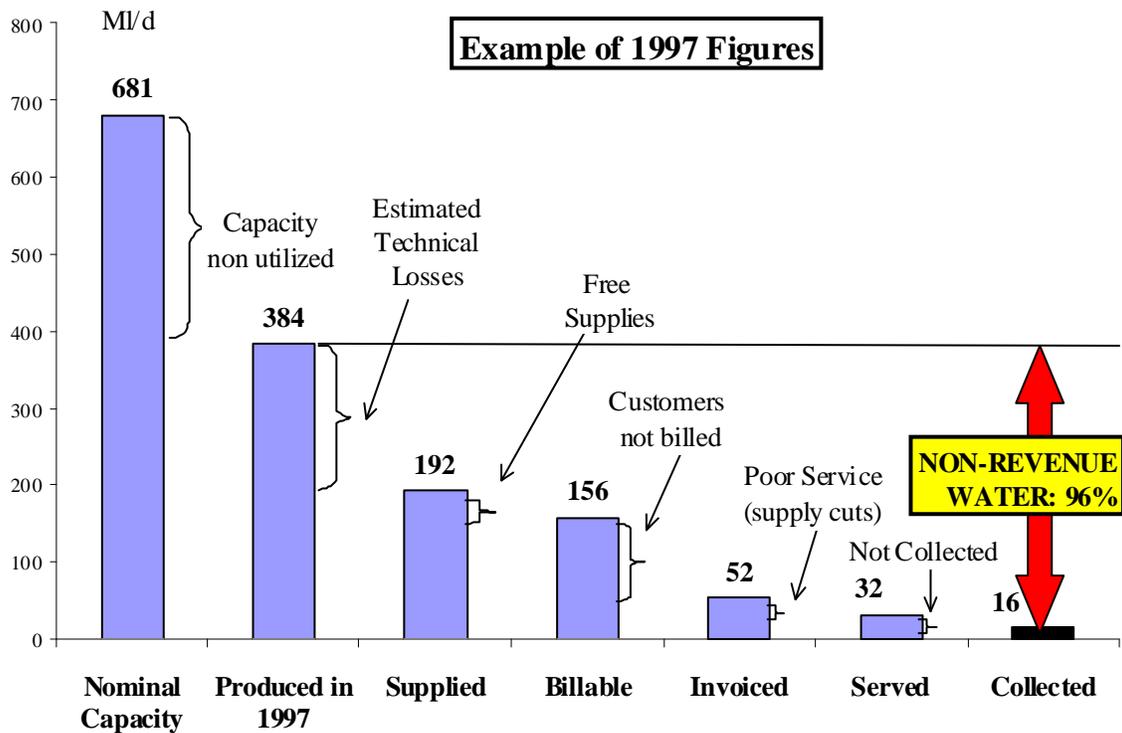
- 60% of children have 2 or more periods of gastrointestinal illness each year, with an average number of missed school days per child of 11.
- USAID health clinics reported a 157% increase in the infant and child death rate in Lagos State due to GI illnesses over the past 5 years. This appears to be a combination of the poorer water quality, and the fact that population influx from poorer states increased dramatically.
- Due to intermittent water supply, virtually all water reaching customer taps is contaminated with dangerous organisms.

III. Reform Options

In Lagos State, Senator Bendu Tolafu, a long-time opponent of military rule and a political exile for years, was elected governor in 2005 representing the Democratic Popular Party. A staunch promoter of the private sector, Governor Tolafu contracted private sector professionals to serve as advisors and to carry out his reform program.

In 2006, the governor said that he was interested in a private sector solution to the water crisis. A British company was hired to prepare a concession design. But there has been an acrimonious debate over the proposal to turn the supply of water in Lagos over to the private sector. All opposition parties in the State Legislature resist the private sector plan, and they are supported by a coalition of NGOs in the state, including the leading organization representing slum dwellers, the leading environmental action organization, the state employees union, and the leading political reform NGO in the state, Citizens for Accountable Leadership. These opposition groups strongly prefer that water supply in Lagos State remain the responsibility of the public sector, that usage fees be lowered to improve affordability, that LSWC be strengthened via an intensive modernization program featuring many new computers and extensive overseas study tours, and that the water distribution network be expanded into additional low income areas.

Recently a national newspaper ran a story alleging that the leading financier of the governor's electoral campaign set up a company with the sole objective of bidding on the concession.



IV. What Should USAID/Nigeria Do

USAID Nigeria is committed to helping resolve the water supply crisis in Lagos State since the declining state of the city's water system is a major constraint to economic development. The combination of workdays lost to GI diseases, high cost of informal sector water, and difficulties associated with obtaining reliable supplies of water for business and industry is noted by all the major business NGOs as a major competitiveness problem.

The design question that the Mission wants you to answer is whether USAID should support a new performance improvement project for LSWC; or should USAID support the Governor's plan to bring in a private sector firm to operate the water utility?

The governor has asked for assistance in designing and conducting the concession transaction. On the other hand, the president of the State Assembly and Lagos Water Corporation Board have officially approached USAID asking for a comprehensive performance improvement program. The board promised to appoint a new Managing Director approved by USAID if USAID agrees to a new project.

Tomorrow is your meeting with the USAID mission director. At the beginning of your TDY, the Water and Energy Team, which will manage this project, told you that they need a recommendation for a 3 year activity, with a budget between \$3 and \$4 million.

What do you recommend and why?

PPP Case Study 1

Port Reform in Cape Verde

I. YOUR TASK

The USAID Mission Director in Cape Verde is one of the Agency's most senior and respected managers. He prides himself on establishing good personal relations with key government counterparts. He is also known for being very demanding of his staff, and sometimes gets very upset (thrown objects are not out of the question) when he feels he is getting poor advice from his staff. The Mission Director is an avid tennis player and plays regularly every weekend with the Minister of Transport. The same Minister recently asked the Mission Director to be the godfather of his only surviving son.

After their tennis session last weekend, the Minister of Transport mentioned to the Mission Director that he had a problem concerning ports and asked for the Director's help. He indicated that Cape Verde needed to reform its main port (Porto de Praia) so as to improve its efficiency, reduce clearance times, and thus lower the costs of Cape Verde's imports and exports. However, he has not been able to decide among the three options for port reform that were identified by a blue ribbon commission and that are described below. The Minister then asked the Director for his opinion on the best reform option to pursue. The Director readily agreed to advise the Minister. Unfortunately, he majored in community recreation in college and barely passed the single Introduction to Microeconomics course that he took in college. Upon returning to his villa, the Director called you (the head of USAID's Infrastructure Office) and told you to come over immediately. Once you arrived, the Mission Director explained the situation, gave you the necessary background reading materials (see below), and told you to be in his office first thing in the morning with your recommendation as to which port reform option should be followed.

Please read individually the materials below, discuss this case study as a group, and come up with a group recommendation for how to approach port reform at Porto de Praia to present to the Mission Director (and the workshop PPP group) tomorrow. Be sure you are prepared to answer questions and justify your recommendation.

II. BACKGROUND

Cape Verde is an archipelago of nine inhabited islands (and one uninhabited island) with an overall area of about 4,033 square kilometers. The islands are located some 500 kilometers off the west coast of Africa (Senegal). The resident population is currently estimated at 480,000 inhabitants.

Between 1975 and 1984, the Cape Verdean economy grew at average annual rate of 10%. Between 1985 and 1994, GDP growth slowed to an average annual rate of 6.4%. From 1995 to 2002, the average GDP growth declined slightly to 6.3%. More recently, growth

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has slowed significantly. Per capita income is now approximately \$2130--meaning that Cape Verde is now classified (according to World Bank criteria) as a low middle income country. In recent years, fiscal policy has emphasized macroeconomic stability and debt sustainability with both inflation and the fiscal deficit falling below 5%. In terms of the overall business climate, Cape Verde placed 143 (out of 181 countries) in the World Bank's Doing Business rankings for 2009, while it ranked a much higher 56 for ease of "trading across borders".

The Government of Cape Verde adopted a development strategy based on market-oriented policies in 1991 including an aggressive privatization program. The program included the implementation of macroeconomic and structural reforms and the development of institutions and infrastructure to take advantage of opportunities offered through international integration. In the decade following the introduction of economic reforms, Cape Verde experienced rapid economic growth and rates of poverty and unemployment declined significantly. More recently, however, growth has stagnated, unemployment rates have risen sharply—especially for youth just out of school—and public support for the Government has declined markedly. The next national election must be held no later than Summer 2010, and the main opposition party is currently running "neck and neck" with the Government party based on a platform that includes rolling back the privatization program and inviting Barack Obama to run as their candidate for president.

Cape Verde's most important asset is its location, which places it at the crossroads for cargo and passenger moving across the Atlantic Ocean by air or sea. With that in mind, the government has placed emphasis on the development of airports, ports and telecommunications facilities and tourism industry. In July 2005, the Government of Cape Verde entered into a \$110 million compact with the U.S. Government's Millennium Challenge Corporation to support poverty reduction and economic growth. These resources will be used to, among other things, increase agricultural productivity, strengthen the country's investment climate and financial sector, and improve key economic infrastructure.

III. PORTS OVERVIEW

Port facilities exist on each island and primarily serve the island in question. They include two major ports located adjacent to Cape Verde's two largest cities and most populated islands: Porto de Praia on the island of Santiago and Porto Grande on the island of São Vicente. In combination, these two ports handle most international cargo imported to or exported from Cape Verde – in addition to supporting domestic cargo flows to Cape Verde's smaller and less populated islands. Domestic cargo to/from Cape Verde's remaining islands is facilitated by seven minor ports. One of the seven minor

ports, Porto de Palmeira on Sal Island, serves the large tourist center of Santa Maria and does serve international cargo.

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In 2005 cargo traffic handled by Capeverdean ports was approximately 1.5 million metric tons - of which 991 thousand tons or 66% was international cargo. Importantly, international cargo is predominately comprised of imports (94% in 2004) although export cargo growth has been rapid in recent years. Porto de Praia and Porto Grande handled 1135 thousand tons – or 75% of total cargo tonnage handled by all Cape Verde ports. Between 1997 and 2002 international cargo grew about 5% per annum. Container traffic has grown more rapidly since then (see Table 2) and recent investments in new container facilities in Porto Grande, and planned investments in the extensions of the ports of Praia (~53 M\$USD) and Palmeira(~20M \$USD), and business development efforts to initiate container transshipment services may increase future container activities in Cape Verde. For additional information on Porto de Praia see Annex A.

Table 2
ENAPOR: Containers Handled by Port, 2002-2007 (TEU)

Port	2002	2003	2004	2005	2006	2007	Average annual increase 2002-2007
Praia	12,808	15,051	17,217	21,685	25,488	54,658	33.7
Porto Grande	8,951	10,570	10,248	12,627	17,224	29,596	27.0
Palmeira	0	2,036	1,829	3,172	4,203	4,928	n.a.
Six Minor Ports	277	263	239	1,336	1,321	1,534	40.8
Total	22,036	27,920	29,533	38,820	48,236	90,716	32.7

Source: Prepared by Nathan Associates Inc. from data provided by ENAPOR.

IV. PORT REFORM OPTIONS

As noted above, the Government of Cape Verde has identified as a priority the improvement of transport infrastructure—including ports. Toward that end, it appointed a “blue ribbon” commission to develop recommendations concerning reform of its largest port (Porto de Praia). Unfortunately, after a series of hearings, visits to various ports in Cape Verde, and a luxurious study tour to Dubai, Singapore, and Rotterdam, the commission was not able to agree on a single recommended approach to port reform in Cape Verde. Instead, the commission identified three alternative approaches, as described below, and “passed the buck” back to the government to make the final decision:

1) Strengthening the Status Quo: Porto de Praia is currently publicly owned and operated. Port workers are public sector employees. The first approach would maintain public sector ownership and operation of Porto de Praia while at the same time devote significant additional public sector resources to upgrading, expanding, and modernizing

port facilities. New information system technologies would be introduced, and the employees would receive significant amounts of technical and management training as well as pay raises to allow the ports to more easily recruit and retain highly skilled workers. In this way, the Port of Praia, which is the crown jewel of Cape Verde's port infrastructure, would remain firmly within the control of the government and all public sector port employees would remain employed. (N.B. Before corporatization in the mid-1990s, Singapore's port was publicly owned and operated and was one of the most efficient and productive ports in the world.)

2) Concession Contract: Under this approach, ownership of Porto de Praia would remain with the Government. However, after a competitive procurement¹ a private sector firm would be awarded a concession to operate the entire port for 20 years (as long as fees due

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the Government is paid regularly and port performance standards are met). The concessionaire will be allowed to establish prices for various port services—subject to approval by the regulator²--and can retain the difference between port revenues and the various fees paid to the Government (as described in footnote 1). Public sector workers will no longer be employed in the port for cargo handling services. However, some workers will remain with the port to enforce compliance with operational regulations, maintain stewardship responsibility over public access areas, and other functions relevant to the port authority's landlord role.

3) Intra-port Competition: Under this approach, ownership of Port de Praia will, once again, remain with the government and concessions to operate in the port would be offered to the private sector. However, unlike case two above, two concessions would be awarded for container handling operations.³ Each concession agreement would be structured similarly to the agreement described in option #2 above. The winners of these concessions for specific terminals could then compete among each other to provide port services for importers and exporters. A regulator would still be charged with monitoring the behavior of terminal operators and investigating complaints where necessary.

For additional background information on approaches to port reform see Annex B.

V. The Big Question

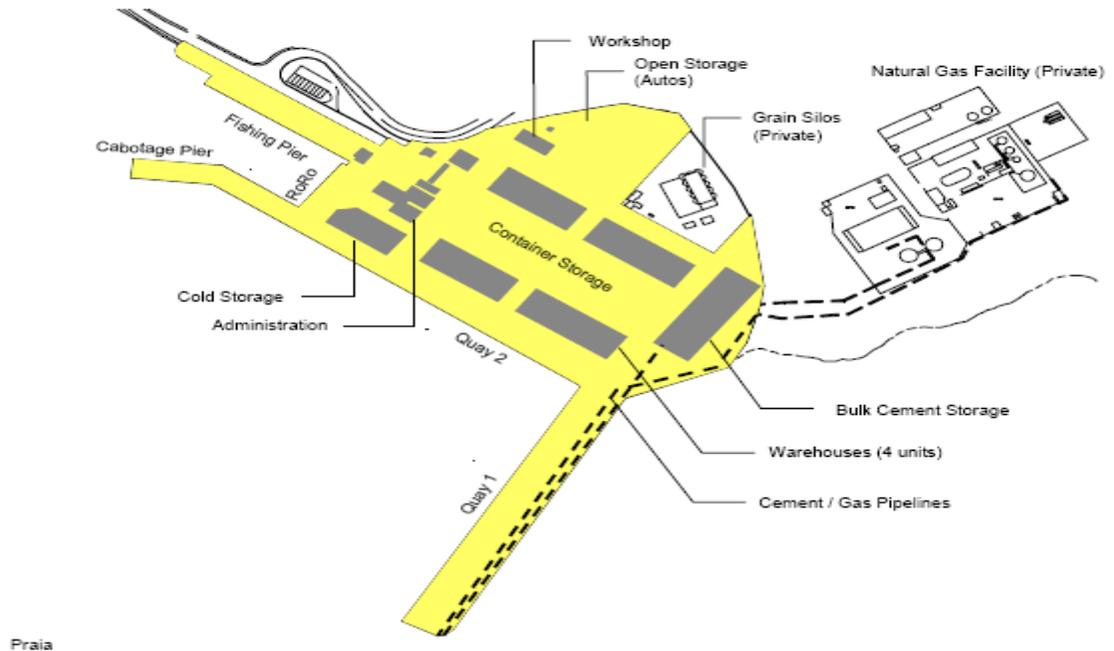
In light of the information above, how would you advise your Mission Director?

¹ In such procurement, each bidding firm must specify what it is willing to pay to the Government of Cape Verde for the following fees: a) the annual port rental fee, b) a fee per unit of cargo unloaded, and c) a one time up front fee to hold the concession. The Government may also require, if it so desires, each bidding firm to specify the number of current port employees that they will continue to employ. It is up to the Government to select for the concession the firm which submits the most attractive overall bid.

² The current economic regulatory agency, ERA, was newly created and needs substantial capacity building

³ Under ideal circumstances, port reformers try to configure concessions for highly integrated operations so that a concessionaire will control the handling operation from the berth to the port gate. Accordingly, each terminal has its own dedicated berth, yard, and gate. But depending on terminal layout and cargo volume, it is not always feasible to formulate a concession for a fully integrated terminal.

Figure 1
Porto Praia Facilities Layout



Number	Length	Width	Draft
1	218m	30.0m	-9.5m
2	314m	30.0m	-7.5m
3	80m	19.5m	-5.0m
4	80m	19.5m	-5.0m
5	55m	24.5m	-3.0m

Source: ENAPOR

The port is a multi-purpose terminal, designed to allow for multiple users and simultaneous operations including, grain discharge, containers, general cargo, and loose bag operations.

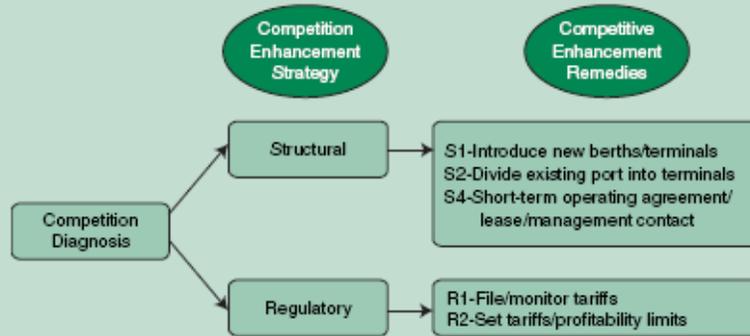
Cabotage, passenger, and fishing vessels have a separate pier and facility located adjacent to the international terminal. Typical vessels that call at the port are multi-purpose container/general cargo vessels, bulk/combo carriers ranging in size from 50-100 meters length overall, smaller cabotage vessels, and deeper draft liquid bulk vessels which anchor using the sea line for discharge. Quay number 2 is

Table 5
Porto de Praia: Detailed Financial Performance, 2002-2007 (Euros 000)

No.	Item	2002	2003	2004	2005	2006	2007
	OPERATING REVENUE	5,639	6,272	5,889	6,701	7,542	8,476
	Revenue from Vessel and Cargo Operations	5,055	5,519	5,117	5,774	6,552	7,233
	721 Movement of cargo	3,960	4,175	4,030	4,294	4,848	5,164
	72111 Deep sea traffic	2,453	2,587	2,518	2,917	3,423	3,657
	72112 Cabotage traffic	477	432	452	550	400	357
	7212 Storage	311	324	393	735	948	1,052
	7213 Stripping of containers	112	129	122	91	77	97
	7214 Delivery of cargo	607	702	545	0	0	0
	722 Storage of equipment in port area	375	408	297	218	239	242
	7221 Cranes	120	139	68	73	81	101
	7222 Other	255	268	230	145	158	142
	723 Maritime Services	57	27	41	70	115	143
	7231 Tugs	47	18	26	70	94	101
	7232 Calrea	0	0	0	0	0	0
	7233 Launches	10	9	15	0	21	42
	725 Port Dues	663	909	748	1,193	1,350	1,684
	7251 Berthage	199	233	186	181	194	249
	7252 Utilization of port	406	623	508	937	1,067	1,304
	7253 Entrance and stay at port	58	54	54	76	89	131
	Revenue from Supplementary Services	391	579	457	629	697	841
	726 Secondary services	0	0	0	0	0	0
	727 Refunds	0	0	0	-0	0	0
	728 Discounts	0	0	0	-19	-10	-8
	752 Rent from urban areas	0	0	0	0	0	0
	754 Sale of energy and water	33	71	60	80	88	136
	755 Administration fees	93	170	121	269	285	311
	758 Other receipts	32	22	21	25	15	33
	759 Extraordinary services	233	317	255	274	320	370
	Other Operating Revenue	193	174	315	298	292	402
	781 Land rents	51	52	74	55	53	115
	788 Other receipts	142	123	241	243	239	287
	OPERATING EXPENSES	3,874	4,437	4,439	4,989	5,190	5,341
	612 Cost of goods used	152	252	207	196	255	244
	631 Third party supplies	240	277	195	207	333	303
	632 Third party services excl security	134	138	95	117	146	109
	6329 Security	80	66	72	123	123	205
	633 Other third party services	152	159	140	117	108	100
	64 Taxes	45	49	45	68	63	70
	65 Personnel salaries excl. management	2,295	2,682	2,684	2,811	2,825	2,321
	651 Management salaries	0	0	0	0	0	0
	67 Other expenses and charges	37	74	114	140	253	260
	682 Maint./rehab of corporate buildings and facilities	635	693	778	758	776	807
	687 Amortization of cost exer. pluriennais	94	48	108	175	240	230
	691 Provision for doubtful accounts	9	0	0	273	24	0
	692 Provision for other risks and charges	0	0	0	3	45	0
	693 Provision for depreciation of assets	0	0	0	0	0	78
	NET INCOME FROM OPERATIONS	1,766	1,836	1,450	1,712	2,352	3,135
	762 Other interest excluding demand deposits	0	2	0	1	2	2
	66 Financial expenses	23	75	105	97	80	148
	CURRENT RESULTS	1,743	1,763	1,345	1,616	2,273	2,989
	82 Extraordinary results	-40	25	-13	-98	-33	-141
	83 Results of prior year	-23	-22	17	-83	-24	149
	RESULTS BEFORE TAXES	1,679	1,766	1,350	1,435	2,216	2,997
	Income taxes	0	0	0	0	0	0
	NET INCOME	1,679	1,766	1,350	1,435	2,216	2,997

Source: Prepared by Nathan Associates Inc. from data provided by ENAPOR.

Box 6: Competition Enhancement



Source: Author.

Box 11: Decision Framework for Port Competition Enhancement

Setting			Diagnosis				Solutions	
Operational Environment			Competitiveness Indicators				Competitive Remedies	
Port Setting	Facility Setting	Volume	Transport options	Berth utilization	Relative Tariff competitiveness	Port profitability	Structural	Regulatory
small port	1 berth	low	1	low	N/A	low	S4	R1
	1 berth	medium	1	medium	N/A	medium	S1	R1
	2 berths	high	3,4	high	N/A	high	S1	R1
	3 berths	high	1,2	high	N/A	high	S2	R1
medium port	3 berths	medium	1	medium	N/A	medium	S2	R1
	12 berths	low	1,2	low	N/A	low	S2	R1
	12 berths	medium	1,2	medium	N/A	medium	S2	R1
	12 berths	high	1,2	high	N/A	high	S1,S2	R1
	12 berths	high	3,4	high	N/A	high	S1,S2	R1
large port	12 berths	high	5	low	similar rates	medium	S2	N/A
	22 berths	high	1	low	N/A	low	S1,S2	R1
	22 berths	low	3,4	high	N/A	low	S2	R1
	22 berths	medium	3,4	low	N/A	low	S2	R1
	22 berths	low	5	low	lower	low	S2	N/A

Transport option codes:

- 1 - No other ports or intermodal options
- 2 - No possibility for facility expansion/construction of a new port
- 3 - Possibility to expand existing facility
- 4 - Possibility to construct a new port/terminal nearby
- 5 - Other port or intermodal options

Structural codes:

- S1 - Introduce new berths-terminals
- S2 - Divide existing port into terminals
- S4 - Short-term operating agreement/lease/management contract

Regulatory codes:

- R1 - File/monitor tariffs
- R2 - Set tariffs/profitability limits

Source: Author.