



# **Public Private Partnership (PPP) for Ports Development and Operation**

## **Final Report**

Based on the outcomes of the Experts Group Meeting implemented on

23-24 November 2019 in Jordan, Amman, Le Royal Hotel

In Partnership between ESCWA and IsDB

And with the cooperation of UNECE

The EGM on PPP for Ports Development and Operation was planned, design and implemented by a joint team from ESCWA and IsDB lead by Dr. Yarob Badr, ESCWA Regional Advisor on Transport and Logistics and Mr. Omar Mehyar, Global Lead Transport Specialist at the IsDB.

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## List of Abbreviations

BCTC - Beirut Container Terminal Consortium

BEST - Barcelona Europe south Terminal

BOT – Build Operate Transfer

BPA – Beirut Port Authority

COSCO - China Ocean Shipping Company Limited

CSF – Critical Success Factors

CT – Container Terminal

DBOFMT - Design Build Finance Operate Maintain and Transfer

UN-ESCWA - United Nations Economic and Social Commission for Western Asia

GIS – Geographic Information System

HPH - Hutchison Port Holdings

HRADF - Hellenic Republic Asset Development Fund

IPMB - International Port Management Beirut

IsDB - Islamic Development Bank

LBP - Lebanese pound

LPMA - Logistics and Port Management, Americas

MED – Mediterranean

MoT – Ministry of Transport

OLP - One Liberty Properties

PCT - Piraeus Container Terminal

PMS - Portia Management Services

POB – Port of Beirut

PPA - Piraeus Port Authority

PPP - Public Private Partnership

SDGs - Sustainable Development Goals

SSS - Short Sea Shipping

TEU - Twenty-foot Equivalent Unit

TERCAT SA - Terminal Catalunya S.A

UN – United Nations

UNECE - United Nations Economic Commission for Europe

USD – United States Dollar

# 1. Executive summary

This report presents a comprehensive overview of the PPP (Public Private Partnership) port model on the levels of operation, management, construction and implementation. It explores the different types of PPP models and their application, the categories of ports and their challenges, as well as previous applications of the PPP model for ports in several countries with respective outcomes, in order to assess the Critical Success Factors (CSFs) for sound implementation of Public Private Partnerships (PPPs) in the port context, and determine stakeholders' diverging opinions on the importance of these CSFs.

Research indicates that Critical Success Factors are extremely important in the implementation of port PPPs; they can indeed be deal-breakers, which might lead to a total failure of PPP projects.

This report also covers the comprehensive national and regional vision of port PPPs, as well as recommendations for the future decision-making process in their application.

Public Private Partnerships (PPP) have been growing more prevalent and thus require more knowledge and expertise to secure the success of infrastructure projects from start (concept phase) to implementation (operation phase). A strong legal and regulatory framework and a clear PPP contract that focuses on the outputs, indicators and follow-up will ensure that anti-competitive effects, which could raise prices and lower optimum efficiencies, will not occur.

Public Private Partnerships have sometimes failed in many countries due to several reasons such as: poor project preparation, inadequate risk allocation, unbalanced agreement structure, drastic changes in economic and / or hinterland conditions, etc. Nevertheless, public service delivery should never be hindered by an ineffective PPP agreement.

Ports are one of the public authorities' main areas of responsibility, and a sound partnership with the private sector can bring great added value in terms of efficiency and quality of service. A PPP can be designed to allow the government to keep its primary regulatory role, while the private sector injects investments and expertise into developing infrastructure projects.

A main benefit from PPPs is that operational and project execution risks are transferred from the government to / or shared with the private partner, hence allowing government funds to be redirected to other important socioeconomic areas and reducing budget deficits. Many countries around the world have had numerous experiences with Public Private Partnerships in the transportation sector, with mixed results and perception.

In order to tackle these issues, ESCWA and IsDB partnered in the implementation of an Experts Group Meeting (EGM) which took place on November 23, 24, 2019 in Amman. The main objective of this workshop was to strengthen the capacity of senior government officials and public sector employees in the field of public-private partnership contracts in ports, with special attention dedicated to the preparation and drafting of PPP contracts, bidding, the selection process, as well as renegotiation and conflict resolution. Also, UNECE contribution in the field was presented during the workshop, mainly through particular guidelines developed by UNECE to support governments in designing and implementing comprehensive People-first PPP policies, programmes and projects. These guidelines were based on major targets such as: (i) to increase access to essential services and lessen social inequality and injustice; (ii) to enhance resilience and responsibility towards environmental sustainability; (iii) to promote capacities building and skills development; (iv) and finally to fully involve all stakeholders in the projects (ports workers may be affected but need to be treated humanely and given jobs elsewhere).

Efforts (through contributions from civil servants, operators and institutions) were deployed to explore the axes and models of regional cooperation that would maximize the potential benefits of PPP projects in ports.

The meeting tackled the following concerns and issues:

- Identification of the top potential port operators in the region (cases discussed in sections 4&5).
- State-of-the-art operating models; advantages / disadvantages of each operating model (section 3).
- Feasibility of each operating model from both the government and operators' viewpoints, and risk sharing between owner and operator (sections 3 & 4).
- PPP models in relation with public interest (section 3).
- Evaluation criteria for potential port operators' capabilities and performances (section 6).
- Success requirements for PPP projects; i.e. the ideal key operational requirements for the success of a PPP model (sections 6&9).

In addition to the co-organizers, participants in the workshop (EGM) included representatives from members countries (Kuwait, Jordan, Iraq, Lebanon, Syria) on behalf of Ministries, Public agencies and Ports; private and public firms operating in the region; and senior experts in maritime and ports sectors. Several presentations, discussions and debates took place. This report summarizes the workshop, assesses PPPs models and types of contracts, and presents case analysis and lessons learned from past experiences, in order to provide a relevant approach for possible PPP implementations in the region that would contribute to economic growth and have positive social impacts.

This report was prepared by Rami SEMAAN (Senior Transport Consultant – Managing Partner at TMS Consult) with the support of Marc ABEILLE (Senior Maritime Expert), who took an active part in the preparation of the conference “Experts Group Meetings on PPP Projects for Ports – Amman 23,24 November 2019”. Outputs and participants' presentations were also taken into consideration to propose a comprehensive approach for port PPPs implementation.

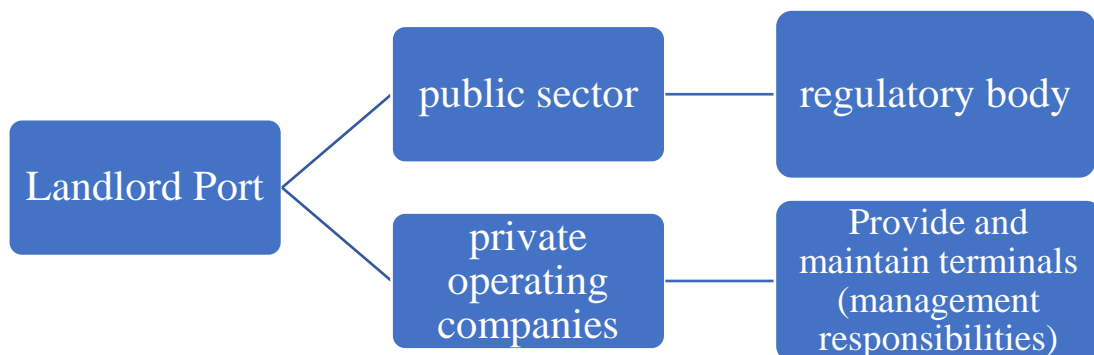
## 2. PPP models and General Trends

### 2.1. PPP models

Port operations and management can be governed by a number of different models, depending on the level of public and private involvement in the port (construction – equipment – operation – services).

The main objective of involving the private sector in ports is to enhance a transfer of risks and responsibilities - among which financing investments in infrastructure and equipment - from public agencies and/or organizations to private actors. The degree of risks and responsibilities shares mainly depends on the selected model and its implementation. There are 4 main possible models that determine the partnership between public and private sectors:

- 1- **The Public Service Port:** In this model, the port authority, which is public (local, regional, national or a mix of all 3), performs most of the port related services and owns all infrastructures and equipment. The private sector can only handle secondary activities and services, as service or operation providers.
  - Government handles all investments and operation.
    - Public sector Risk-Sharing: High
    - Private sector Risk-Sharing: Low
  
- 2- **The Tool Port:** This model is similar to the Public Service Port, and only differs by the private handling of cargo operations. The Tool Port model is often used as a transitioning step from the Public Service Port to the Landlord Port.
  - Public sector Risk-Sharing: Mostly High
  - Private sector Risk-Sharing: Mostly Low
  
- 3- **The Landlord Port:** The most common model; in this case, terminals are leased by concession to private operating companies with the port authority retaining ownership of the land.
  - Public sector Risk-Sharing: Mostly Low
  - Private sector Risk-Sharing: Mostly High



**Chart 1: Landlord Port Role Allocation**



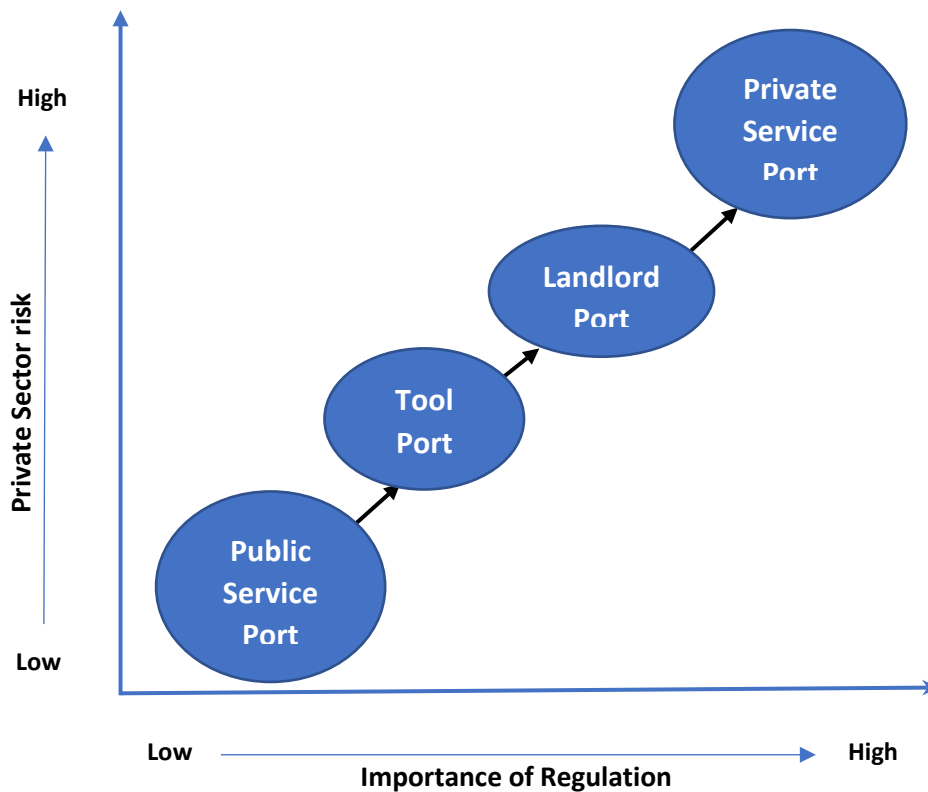
- 4- The Private Service Port:** Complete privatization of ports, the port authority is entirely privatized with the public sector retaining a standard regulatory oversight. But public entities can still be shareholders. Very few ports operate under this model, where the government has little to no involvement in the port sector, which results in minimal or no regulatory oversight.
- Public sector Risk-Sharing: Low
  - Private sector Risk-Sharing: High

The port models are summarized in the table below:

**Table 1: Public & Private roles in Port Management**

<i>Port Model</i>	<i>Public (Institutional Functions)</i>	<i>Private Sector (Interventions)</i>
<i>Public Service Port</i>	Ownership and operations	Traditional activities (« dry side »)
<i>Tool Port</i>	Ownership and outsourcing	Operating – equipment and workforce
<i>Landlord Port</i>	Regulation and concessions (or similar)	Operating concessions contracts
<i>Private Sector port</i>	Infrastructures	Ownership and operations

The appropriate port models for each country should be chosen and judged by how well they achieve the intended objectives. The following chart presents the interrelation between a PPP model and the level of risks for the private sector.



**Chart 2: Public Private Balance of Risk and Regulation Allocation**

The port models listed in the table below are often “mixed”, and the different characteristics of two or even more models can apply to different port activities or facilities in the same port.

The most frequent example is container terminals, usually operated by private specialists. The ongoing trend towards port privatization makes it harder to characterize a port by one model only; especially with the Tool Port model being a transition between the Public Service model and the Landlord model.

To get a clearer identification of both the Private and Public sectors’ participation requires a more accurate description of their roles and functions in each port activity (port ownership, operations, management...).

**Table 2: Port model examples**

<i>Port Model</i>	<i>Examples</i>	<i>Comments</i>
<i>Public Service Port</i>	- Dar-es-Salaam, Tanzania	- A great number of Ports linking with mainland
<i>Tool Port</i>	- Chittagong – Bangladesh	- Undergoing - Mid-way to Land Port
<i>Landlord Port</i>	- Rotterdam, Antwerp... - Singapore - Port Louis (Mauritius)	- The dominant model
<i>Private Service port</i>	- Liverpool, Southampton (UK) - Some Black Sea ports - Bulk ports (oil, ore...)	- Ports status (not for all) - «Fast» privatization - Big exporting countries

## 2.2. General Trends

The adoption of a model is dominated by several internal (national economy, governance issues...) and external (maritime actors, hinterland characteristics...) parameters and constraints:

- The **Public Service Port** is managed and led by a single integrated organization, and decision-making falls in the hands of one authority, which favors cohesive and logical decision-making, therefore leading the port to growth. However, a public service port could suffer from the lack of internal competition, possibly resulting in inefficient port administration and lack of innovation. Public Service Ports were the dominant model till the late 80s.
- A **Tool Port’s** main advantage is that all port investment is managed by the state, and therefore all port infrastructure and handling equipment are carefully chosen through coordination between all parties.  
In this model, the private sector is involved in cargo handling and port organization, without actually owning any of the port’s main facilities, which may lead to conflict and limit future enterprise expansion.

Currently, the Tool Port model is widely adopted in many countries as a way of transferring some public tasks to the private sector.

- The **Landlord Port** model has several advantages, which is why it is the predominant model today. Port development investment duties are clearly assigned between the government and the private sector, allowing private investors to effectively meet customers' demand, and the state to balance its investments and limit resources dispersion in ports. However, since the private sector has a management role in the port, it can put pressure on port authorities to oversize infrastructures and land with the ambition to increase profit and/or enhance competitiveness; therefore, tensions can arise between both partners.
- As owners of **Private Service Ports**, private investors can actively invest in building market-oriented seaports and developing policies for seaport charges in an appropriate way, without government intervention. This could however lead to a monopolistic behavior that would prevent the government from executing economic policies in port operations or controlling strategic issues, which might cause risks for the state. Today, the Private Service Port model is generally limited to specific cases, entrusting the private sector with some governing functions (regulatory, port operations, planning, organization, etc.).

**Table 3: PPP models main features**

<b>PORT MODEL</b>	<b>PROs</b>	<b>CONs</b>	<b>TRENDS</b>
<b>Public Service Port</b>	<i>Single integrated organization</i>	<i>Weak weight of users</i>	<i>Dominant before Globalization</i>
<b>Tool Port</b>	<i>Coordinated investments</i>	<i>Potential tensions</i>	<i>Frequent use</i>
<b>Landlord Port</b>	<i>Sovereign functions</i>	<i>Same</i>	<i>Most dominant recently</i>
<b>Private Service Port</b>	Market oriented	Loss of sovereignty & monopoly	Specific Ports facilities

## 2.3. Types of PPP contracts

Public Private Partnerships vary in forms and conditions according to context, parameters, projects' constraints, the degree of contribution required from each partner, the level of risk transfer and investment, and the desired outcomes. Therefore, various types of public-private partnership contracts are conceivable, i.e.:

1. **Management Contract:** The awarding authority hires the contractor to manage a range of activities for a relatively short period (3 to 5 years). Management contracts tend to be task specific, and input rather than output focused. Operation and maintenance agreements usually have more performance requirements - Output focused. ( World Bank Group, 2019).
2. **Leasing contract:** The private operator is responsible for operating and maintaining the utility but not for financing the investment. (World Bank Group, 2016).
3. **Rehabilitate, Operate and Transfer:** The private party is responsible for rehabilitating, upgrading, or extending existing assets. (World Bank Group, 2015).
4. **Rehabilitate, Lease/Rent and Transfer:** A private sponsor rehabilitates an existing facility at his own risk, leases or rents the facility from the government, then operates and maintains the facility at his own risk for the contract period. (World Bank Group, 2019).
5. **Merchant:** A private sponsor builds a new facility in a liberalized market, in which the government provides no revenue or payment guarantees. The private developer assumes construction, operating, and market risk for the project (World Bank Group, 2019).
6. **Build Rehabilitate Operate and Transfer:** A private developer builds an add-on to an existing facility or completes a partially built facility and rehabilitates existing assets, then operates and maintains the facility at his own risk for the contract period. (World Bank Group, 2019).
7. **Build Operate and Transfer:** A private sponsor builds a new facility at his own risk, owns and operates the facility at his own risk, then transfers it to the government at the end of the contract period. (World Bank Group, 2019).
8. **Build Own Operate and Transfer:** A private sponsor builds a new facility at his own risk, owns and operates the facility at his own risk, then transfers it to the government at the end of the contract period. (World Bank Group, 2019).
9. **Build, Lease and Own:** A private sponsor builds a new facility, largely at his own risk, transfers ownership to the government, leases the facility from the government and operates it at his own risk, then receives full ownership of the facility at the end of the concession period. (World Bank Group, 2019).
10. **Build, Own and Operate:** A private sponsor builds a new facility at his own risk, then owns and operates it at his own risk. (World Bank Group, 2019).
11. **Partial Privatization:** It requires a continuing, active role for the government, who retains responsibility for the function while delegating the actual production activity to the private sector (Savas, 2000).

12. Privatization: All or substantially all the interests of a government in a utility asset or a sector are transferred to the private sector. Full privatization is often considered to be a more final form of private sector involvement in a utility than a concession. (World Bank Group, 2016).

**Table 4: PPP models main features**

<b>Types of PPPs</b>	<b>Mode of Entry</b>	<b>Operation and Maintenance</b>	<b>Investment</b>	<b>Ultimate Ownership</b>	<b>Duration (years)</b>
<b>Management Contract</b>	Contract	Private	Public	Public	3-5
<b>Leasing</b>	Contract	Private	Public	Public	8-15
<b>Rehabilitate, Operate and Transfer (ROT)</b>	Concession	Private	Private	Public	20-30
<b>Rehabilitate, Lease/Rent and Transfer (RLRT)</b>	Concession	Private	Private	Public	20-30
<b>Merchant</b>	Greenfield	Private	Private	Public	20-30
<b>Build, Rehabilitate, Operate and Transfer</b>	Concession	Private	Private	Public	20-30
<b>Build, Operate and Transfer (BOT)</b>	Greenfield	Private	Private	Semi-private	20-30
<b>Build, Own, Operate and Transfer (BOOT)</b>	Greenfield	Private	Private	Semi-private	30+
<b>Build, Lease and Own (BLO)</b>	Greenfield	Private	Private	Private	30+
<b>Build, Own and Operate (BOO)</b>	Greenfield	Private	Private	Private	30+
<b>Partial Privatization</b>	Divesture	Private	Private	Private	30+
<b>Privatization</b>	Divesture	Private	Private	Private	Indefinite

### 3. Specificities of containers terminals

Challenges and Risks of Container Terminals (which are attracting more attention than other port facilities) are dominated by particular context and rules. Port and terminal projects and operations are frequently faced with complex challenges and risks, requiring a unique and thorough risk mitigation plan depending on the type of ports and terminals, generally divided in three categories: major ports and terminals, medium container ports and terminals, and smaller (feeder) ports.

Each category is defined by the level of TEU handled annually, and the type of port it is based on that. A summary of the Port categories defined in this report is listed below

**Table 5: Container port Categories (Panagopoulou, 2015)**

Type	Characteristics
Minor ports	Handling < 50,000 TEUs annually Multipurpose ports feeder + coastal
Medium ports	Handling between 50,000 and 400,000 TEUs annually Feeder + direct regional (short sea) calls
Major ports	Handling > 400,000 TEUs annually Feeder + direct inter-continental (longer haul) trade

The challenges and risks of each container terminal are listed below.

#### 3.1. Major ports and terminals

A major port is defined as “any port with two or more berths and facilities and handling a minimum of 400,000 TEUs per year of cargo from ocean-going ships”. Major ports can be defined by many criteria, such as:

- Volumes, combining:
  - Trades (in / out) attracting Shipping Lines servicing « gate » port markets: The position of a country or port in the global container shipping network (its connectivity) is an important determinant of accessibility to global trade, trade costs and competitiveness. The largest vessels serve a limited number of major hub and gateway ports to secure the competitive advantage of trade routes and higher inter-port competition.
  - Transshipments – Interlining (way ports): Many container terminals / ports are competing to become transshipment (T/S) hubs for major shipping lines scheduling several routes and using their interline feeder networks. Maritime networks and connectivity of ports benefitting from both gate and T/S movements contribute to countries’ overall connectivity and competitiveness.
  - Transshipments combined with feeder to/from « out ports » (not included in ocean schedule): A feeder ship picks up containers from different ports and transports them

to central container terminals, where they are loaded on bigger vessels. Larger container shipping lines are able to offer such global service because of feeders.

- Hubs offer the best coverage /connectivity: The purpose of the transshipment hub is to provide a complete connectivity between short distance feeder lines (and ports) and long-distance deep-sea lines, linking regional and global shipping markets and networks. Rules, tariffs, and logistics chains components / characteristics are mainly dominated by the maritime routes organization and flows massification.
- Two categories of clients corresponding to the above traffic flows:
  - Shippers for Gate Ports (all sizes) provide freight revenue.
  - For shipping Lines, Transshipped and feeding of containers constitute costs (compensated by optimization that results in savings).  
As a consequence, shipping lines have wielded greater bargaining power, requiring ports to deliver higher performance levels, better service quality and lower costs.
- Standardized Terminals designed for target capacities:
  - In technical and operational terms: access, berths, yards, handling, inland connections...
  - With pre-designed PPPs, more and more imposed by both industries (Terminal operators and Lines).
- Challenges and risks:
  - Attract and keep the vessels of Mega Alliances and / or big Regionals.
  - Sustain competition with neighboring ports in the same range.
  - Key options offered by ports: dedicated or multi-users' terminals.
- Highest Risk for PPP Ports:
  - Loss of Lines' / Alliances' services.
  - Overestimated investments / capacities.

### **3.2. Medium Container Ports / Terminals**

Prior to the 1980s, the trend of using medium and small container ports was growing rapidly, then shifted to larger ports in the 1980s. Medium ports are considered ports with an average container traffic between 50,000 and 400,000 TEUs annually (European Conference of Ministers of Transport, 1998).

#### **1. Main features**

- Gate Port: direct trade only (mostly).
- Service / calls according to attractiveness / freight contributions.
- Connectivity: direct + transshipped.
- Standard terminal design and equipment designed for mid-sized vessels.

## 2. Challenges and risks

- Focus on captive markets and facing potential competition from other ports.  
Captive markets are markets where potential consumers face a severely limited number of suppliers; their only choices are to purchase what is available or make no purchase at all, thus reducing market potentials.
- Low intra -port competition between operators' services.  
Intra-port competition takes place between terminal operators located within the given port; it mainly entices major shipping lines and shippers to entrust their operations to the terminal in order to enhance connectivity on particular trade routes and to particular regions.
- The same challenge with higher risks faces a single terminal operator who is linked with a shipping line; which allows no level playing field for any users.
- Over or under estimation of prospect movements.  
If shipping lines shift from small and medium ports to large ports that can withstand larger vessels, it is a challenge to properly estimate the prospect movements of cargo and vessels, and whether or not medium ports will have less or more activity.
- Wrong commercial / market positioning.  
Ports should be as commercially oriented as possible, focusing on the foreign trade and transport sectors that they service; their commercial function and character are being fully recognized. Ports should be considered first and foremost as commercial undertakings like any other industry.

### 3.3. Small / feeder Ports

A small and feeder port is a port where large vessels do not go, mostly because it is not able to handle large ocean vessels and/or the cargo basis is not sufficient. Small ports handle about <50000 TEUs annually (European Conference of Ministers of Transport, 1998). As the wave of expansion increases and the trend towards the ever-expanding ships and terminals grows, the use of small ports decreases (or remains for specific traffic). Fortunately, small ports continue to serve their local markets and connect to other ports by small feeder vessels, which large vessels and ports do not do. Therefore, despite the decreasing reliance on small ports, their use and operation are still required.

#### 1. Main features and challenges:

- Local trade markets with / without alternative port options:  
Small ports are usually important when serving domestic and local markets.
- Deep Sea Lines options to use dedicated or common feeder services:  
Feeder is operated with vessels that move ocean carriers' boxes by third-party common feeder operators or by their own feeder services, depending on their financial and commercial interests.
- Containerships or multi-purpose ships can be also use small ports:  
Small container ships or feeders that typically operate between smaller container ports fit to collect and handle their cargo between those ports, then drop it off at large ports for transshipment on larger ships and distribute containers from the large port to smaller regional ports.



Multi-purpose ships may adequately use smaller harbor, because of their limited draught or berth, and their non-containerized cargo (i.e. Ro-Ro).

- Connectivity:  
Many small ports must improve their accessibility and multimodal connectivity with more transport links, better transport/handling equipment, newer technologies, in order to improve operations.

## 2. Challenges and risks

- Design: select the best option between dedicated berth and yards or multipurpose.  
In order to secure some shipping lines with extended contracts, some ports may agree to dedicated berths/terminals for preferred customers.  
Multi-purpose terminals, on the other hand, are for general cargo & containers and do not have a specific function.  
Since they are usually dependent on regular shipping lines, small ports may choose dedicated terminals and berths in order to secure their customers as competition gets fiercer.
- Single ocean carriers' service or common feeder.  
Several local carriers still play a major role in local trade, but they are prone to lose their trade activity or act as simple sub-contractors due to the big alliances between global operators offering more competitive prices. Single ocean carriers' advantage is their customer relations.  
Therefore, small ports would rely on common feeder services, if feasible, to connect to a transshipment hub that secures their integration within the global network.

### **3.4. PPP Contract for Container Terminals**

A concession agreement is a contract made between the public sector and operators from the private sector, used by public authorities to deliver port infrastructure and/or operation projects. The contract generally follows the below structure and main provisions, with a series of technical issues presented in the following chapters or annexes:

- I.** *Usual generalities: Between the Parties etc. (+ Set up of a dedicated company for the Project):*
  - *Objectives*
  - *Scope (perimeter) of transferred / conceded activities*
  - *Infrastructures and equipment*
  - *Human resources and social conditions*
  - *Port Operations rules and regulations (Law/ by-laws)*
  
- II.** *Rights and obligations of the contracting Party – Private concessionaire:*
  - *Investments and maintenance*
  - *Performance indicators (often detailed in Annex)*
  - *Royalties: level and minimum guaranteed*
  - *Tariffs - Equal treatment of Users*
  - *Tax / Customs regime (general and special)*
  
- III.** *Settlement of disputes:*
  - *Resignation: causes and effects*
  - *Revision (same)*
  - *Arbitration*
  
- IV.** *Duration:*
  - *Expiry date & Conditions of renewal*
  - *Repossession / recovery or sale / purchase of assets*
  
- V.** *Administrative provisions*
  
- VI.** *Annexes*

Middle East ports handle about 20% of the world's sea cargo due to their geographical location and investments made in port infrastructure and terminals. Some main PPP port operators in the Arab (Middle Eastern) region are as follows:

1. *Jebel Ali – UAE*

Jebel Ali seaport is the busiest and best equipped port in the Middle Eastern region and the world's 9<sup>th</sup> busiest port. It is operated by DP World with an annual container volume of 13.6 million TEU as of 2013 (dpworld, n.d.)

2. *Jeddah Islamic Port South Container Terminal - Saudi Arabia*

Largest port in Saudi Arabia with 3.957 million TEU handled in 2017. Jeddah Islamic port SCT is operated by DP World (dpworld, n.d.)

3. *Khor Fakkan Container Terminal - UAE*

Due to its unique geographic location, KCT has been one of the most important transshipment hubs for the Arabian Gulf, the Indian Sub-continent, the Gulf of Oman and the East African markets. The terminal is operated by Gulftainer, which is the world's largest privately-owned independent port operator (gulftainer, n.d.). Capacity: 5,000,000 TEU

4. *Port of Salalah*

The largest port in Oman. Situated on the Arabian Sea at the northern part of the Indian Ocean, it is centrally located at the crossroads of trade between Asia and Europe. It serves the markets of East Africa, the Red Sea, the Indian Subcontinent and the Arabian/Persian Gulf.

The port has been partly owned and managed by APM Terminals, the Danish terminal operating company, since 1998. (salalahport, n.d.). Capacity: 5,000,000 TEU

5. *Port Said Suez Canal Container Terminal*

Located at Port Said East and functions as a transshipment center for the Eastern Mediterranean at the northern entrance to the Suez Canal. The terminal has been operational since October 2004. (SCCT, n.d.). Port Said is operated under concession by APM terminals. Capacity: 5.4 million TEUs

Global operators of Container Terminals are already active in some ports of the Gulf, Red Sea and East-Med (DP World, PSA International, APM Terminals and others, TO specialists or sub-companies of big shipping Lines).

## 4. Selected Cases

Maritime transport is one of the oldest and most important modes for the transport of goods, and it continues to play a vital role in national and global economic growth and strong relations between territories. As the need for trade and movement of goods increases, the efficiency of maritime transport becomes more crucial.

After WWII, the international trade of goods grew from \$58 billion in 1948 to \$2 trillion in 1986, and to more than \$6 trillion in 2000. One of the reasons for such a growth is the role of global maritime transport, which accounts for 70% of the value of exchanged goods. Throughout history, and despite the emergence of other transport modes, maritime transport remains the backbone of international trade, with container shipping lines growing from Asian ports eastward to Northern European ports westward across the Indian Ocean, the Arabian Sea, the Red Sea and the Mediterranean Sea.

The following cases illustrate the progressive strategy change in various regions and ports regarding port infrastructure and services, which were commonly expected to be provided by public agencies / actors (government / municipalities / regions). There has been a global shift towards public private partnerships over the last decades involving the private sector, especially in operations and financing of port infrastructure and services.

### 4.1. Benchmark

#### 4.1.1. North European Ports

The examples listed in Table 3 are valid for major ports only. Some characteristics that North European ports have are:

- Mixed solutions between Public Authorities: National and Regional levels.

The contracting authorities are national, regional or local, or bodies governed by public law that have to apply the public procurement directives for public contracts and design contests (Verhoeven / European Seaport Association 2010).

- Regional and municipal authorities largely involved in small and medium ports.

Smaller port authorities tend to be owned by municipalities, whereas medium port authorities are mostly state-owned (Verhoeven, 2010).

- Public authorities represented either directly or by dedicated sub-companies.

Port authorities may provide port services either directly or indirectly. Indirect involvement or interest in these services may follow various methods, for instance through a subsidiary (a shareholder or a member of the supervisory board in a service-providing company).

- Important involvement of municipalities:

Seaports in Northern Europe are traditionally linked to municipalities to the point that, in some cases, it is difficult to disentangle port accounts from local public accounts. Municipalities frequently organize port activities and distinguish between public port management and port services.

- Self-financing completed with facilitation and/or subsidies (if/as authorized):

Port authorities' financial responsibility is one of the most important factors in determining whether the port authority can achieve the desired objectives and perform its functions and obligations effectively. This financial responsibility constitutes the capital investment, administration, operation and maintenance of the capital assets that establish a port (Verhoeven, 2010).

**Table 6: PPP structure in some Northern European Ports**

	<b>Poland</b>	<b>Germany</b>	<b>Netherland</b>	<b>Belgium</b>	<b>France</b>
<b>General management</b>	<i>Public entity</i>	<i>P+P</i>	<i>P+P J/V</i>	<i>Public</i>	<i>Public</i>
<b>Land</b>	<i>Public</i>	<i>Public</i>	<i>Public</i>	<i>Public</i>	<i>Public</i>
<b>Port Ownership</b>	<i>State-City J/V</i>	<i>State-City J/V</i>	<i>State-City J/V</i>	<i>City</i>	<i>Public C°</i>
<b>Infrastructure</b>	<i>P+P</i>	<i>Private</i>	<i>Private</i>	<i>Private</i>	<i>P+P</i>
<b>Operations &amp; services</b>	<i>P+P</i>	<i>Private</i>	<i>Private</i>	<i>Private</i>	<i>Private</i>
<b>Self-Financing</b>	<i>Partly</i>	<i>Partly</i>	<i>Yes</i>	<i>Yes</i>	<i>Partly</i>

#### 4.1.2. Mediterranean European Ports – Compared situations

The examples listed in Table 4 are valid for major ports only. The main general characteristics of PPPs in Mediterranean European ports are summarized below:

- Mixed PP solutions in accordance with National Laws and/or Special Law.
- Public Authorities: National and Regional levels.
- Regional and municipal authorities largely involved in small and medium ports.
- Public Authorities represented either directly or by dedicated sub-companies.
- Important involvement of municipalities.
- Self-financing completed with facilitation and/or subsidies (if/as authorized).

**Table 7: PPP structure in some Mediterranean European Ports**

	<b>Spain</b>	<b>France</b>	<b>Italy</b>	<b>Malta</b>	<b>Greece</b>
<b>General management</b>	<i>Public entity</i>	<i>Public</i>	<i>Public entity</i>	<i>Public entity</i>	<i>Public C°</i>
<b>Land</b>	<i>Public</i>	<i>Public</i>	<i>Public</i>	<i>Public</i>	<i>Public</i>
<b>Port Ownership</b>	<i>Public</i>	<i>Public C°</i>	<i>Public (regions)</i>	<i>Public Agency</i>	<i>P+P</i>
<b>Infrastructure</b>	<i>Private</i>	<i>P+P</i>	<i>Private</i>	<i>Private</i>	<i>P+P</i>
<b>Operations &amp; services</b>	<i>Private</i>	<i>Private</i>	<i>Private</i>	<i>Private</i>	<i>Private</i>
<b>Self-Financing</b>	<i>Yes</i>	<i>Partly</i>	<i>Partly</i>	<i>Partly</i>	<i>Partly</i>

## 4.2. Overview of other countries

### 4.2.1. Lebanon

Beirut is the capital and largest city of Lebanon, located on a peninsula at the midpoint of Lebanon's Mediterranean coast, it is the country's largest and main seaport. The port of Beirut is located on Beirut's northern Mediterranean coast, west of the Beirut River. It is one of the largest and busiest ports on the Eastern Mediterranean, and one of the two main ports of entry into the country (the other is Rafic Hariri International Airport).

In 1887, the ruling Ottoman authority gave the concession of the port to a French company, called "Compagnie du Port, des Quais et des Entrepôts de Beyrouth", which undertook the construction of a maritime dam to expand and develop the port. (Port Of Beirut., 2013)

In 1960, a 30-year concession was given to a Lebanese company, called "*Compagnie de Gestion et d'exploitation du Port de Beyrouth*", which worked on expanding Quay 3 and the breakwater, as well as completing quay 14, thus transforming the Port of Beirut into a regional hub.

After the concession period ended, 30 years later, the government formed a temporary committee to manage the Port of Beirut. The Container Terminal was extended (public funding - 2000), and a Management / Operation contract was implemented in 2005 (to the present). This temporary committee, having operated for such a long time, became rather permanent. But even after this long period of management, it still lacks an institutionalized framework and does not fall under the supervision of the Audit Court or the Ministry of Finance, although it manages a public facility and spends public funds exceeding USD 250 million annually.

**Table 8: Port of Beirut PPP – Lebanon**

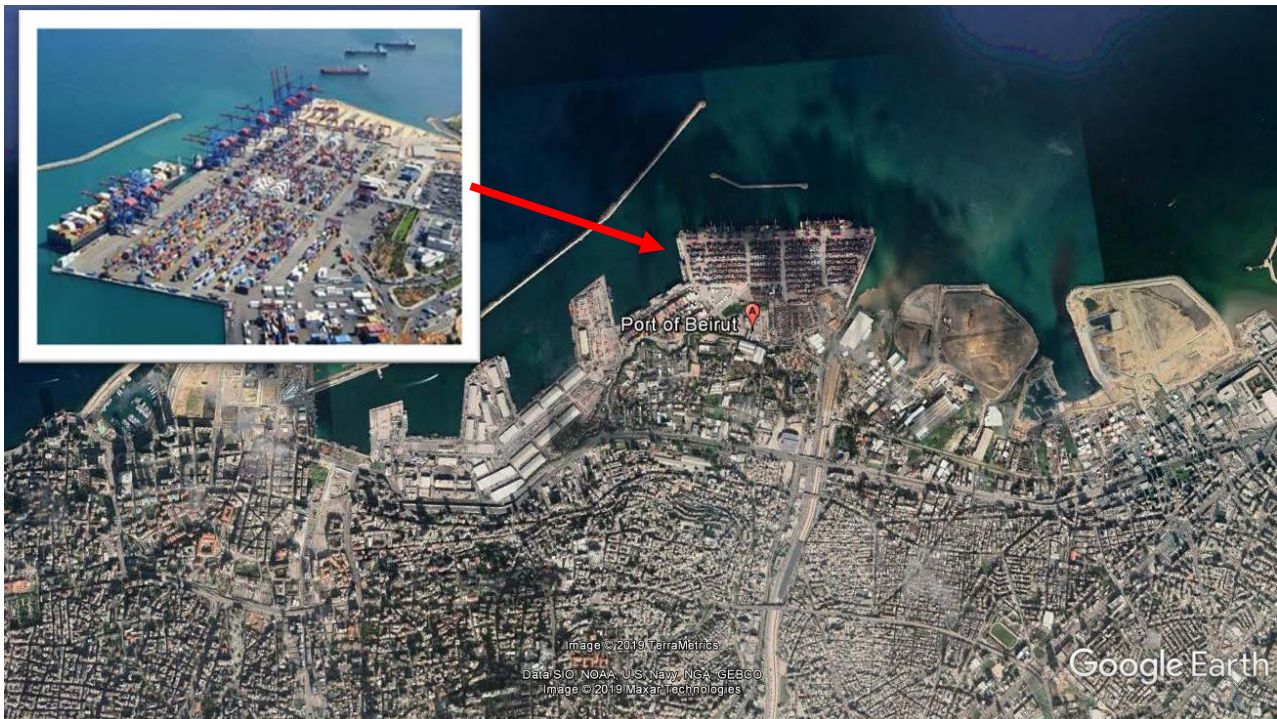
	<b>Government</b>	<b>Privatized through concession</b>	<b>Comments</b>
<b>Infrastructure provision &amp; site management</b>	✓		- Managed by Gestion et Exploitation du Port de Beyrouth (GEPB)
<b>Asset / Facility management</b>	✓		- Managed by Gestion et Exploitation du Port de Beyrouth (GEPB)
<b>Asset / Facility operations and maintenance</b>	✓		- Operated and maintained by Gestion et Exploitation du Port de Beyrouth (GEPB)
<b>General cargo operations</b>	✓		- Managed and operated by Gestion et Exploitation du Port de Beyrouth (GEPB)
<b>Container Terminal Operation</b>		✓	- POB subcontracted container terminal operation to Beirut Container Terminal Consortium (BCTC) in February 2005 - POB signed a partnership contracts with MSC and CMA – CGM to also establish hubs

Three temporary committees have been formed, the last of which is the current 7-member committee that came about in 2002 and has since been in charge of spending the funds it collects; it specifies the needed works and awards the corresponding contracts with no supervision.



Despite the increase in the port’s revenues, the mismanagement of the Port Authority has resulted in declining state revenues. In 2013, only LBP 30 billion were transferred by the Port Authority to the Lebanese Treasury. The transfers amounted to ‘zero’ in 2012, and LBP 48 billion in 2011, giving the state less than a 10% share of the port’s revenues.

Management and operation of the container terminal is subcontracted to the Beirut Container Terminal Consortium (BCTC) that includes the Lebanese-based International Port Management Beirut (IPMB), British-based Portia Management Services (PMS), and American-based Logistics and Port Management, Americas (LPMA). It was established in December 2004 and began operations in 2005, although the container terminal facilities were completed in 2000.



**Figure 1: Port of Beirut – Lebanon**

#### **4.2.2. Port of Lattakia – Syria**

Between 2005 and 2006, a study to develop and modernize the port was performed with technical support from the United Nations Development Program (UNDP) to increase the port’s capacity to 1 million TEUs (from 600,000 TEU). In 2007, preparation for a management contract option with revenue sharing for bidding began and a contract was awarded in 2008 to the coalition: **CMA-CGM, Terminal Link, Souria Holding**.

The contract was awarded for 10 years, renewable for an additional period of 5 years. It stated that the operating company has to operate and rehabilitate the port in accordance with the latest standards used in advanced ports. The operating company receives the machinery and equipment related to making containers, and is responsible for their maintenance.

The operating company was required to invest US \$ 45 million, committed to reach a minimum of one million TEUs per year starting from the third year, and employ 420 workers from the port.

Revenues were shared between the two parties, with 61.05% to Lattakia Port and 39.95% to the Operating Company. Many positive outcomes resulted from the PPP agreement in the port:

1. A new structure for handling and delivering containers according to international standards.
2. Automated port work after purchasing the CATOS program for the automation of ports' operational process.
3. Business software development.
4. Development of the port's website to provide services to customers.
5. Overcoming many issues that were outlined by UNDP (Lack of integrated management of the plant and containers, crowded containers, the absence of a dedicated area for customs inspection and unloading of goods from containers...).



**Figure 2: Port of Lattakia**

#### **4.2.3. Aqaba Port – Jordan**

Between 1999 and 2003, trade volumes through the sole container terminal in Jordan's grew by around 73%, followed by another 45% within the second half year (2004); which caused significant congestion in the port, and resulted in longer dwelling times for vessels and cargo, leading to a lesser efficiency in Aqaba port and the need for bigger investments in quays and equipment.

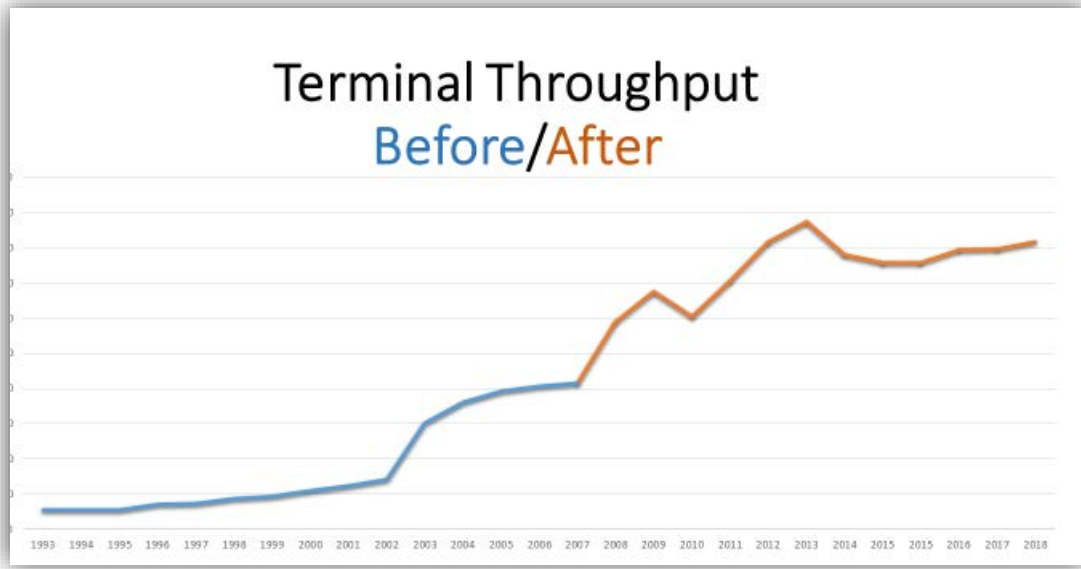
In 2004, ADC was designated by the Government as the owner and developer of the seaport assets. It entrusted with immediate management, organization and operations of the port, purchase of new equipment, and investment in the expansion of the port to increase its capacity.

Due to the urgent issues in the port, an immediate 2-year contract was awarded by ADC to APM group, and later converted to a 25-year BOT Joint Venture through a competitive bidding.

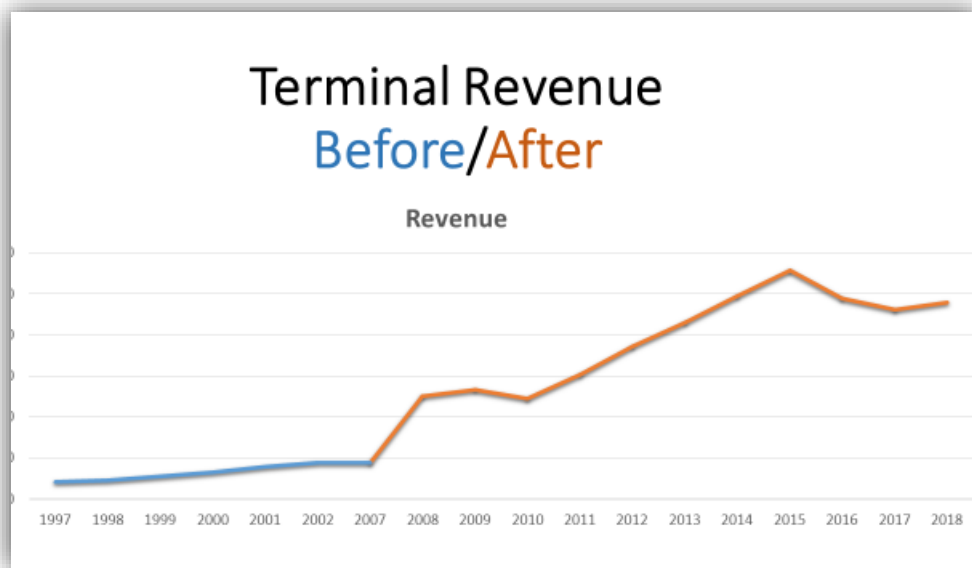
A Progress of Negotiations took place between June 2005 and June 2006. First, a risk analysis strategy was formulated by ADC, followed by a Master Plan, a Labor Restructuring Plan, Tariff Revision, an ACT Business Plan then a Transition Plan.

This led to a 42% growth in 2008 and 15% in 2009, to reach an efficiency of: 7 days dwell time, and driving digital processes and improvement across the whole logistics chain in 2018.





**Figure 3: Terminal Throughput in Aqaba Port before and after PPP**



**Figure 4: Terminal revenue in Aqaba Port before and after PPP**

**Table 9: Terminal Capacity Fact Sheet – Aqaba Port**

Capability facts	Before JV	2018
Capacity (TEU)	600,000	1,300,000
Quay length (m)	540 m	1,000 m
Draft (m)	14 -20	14-20
Berths	2	4
STS gantry Cranes	5	7 ( 2 old +5 new)
RTGs	None Straddle Carrier	22
Dwell Time	25 day	8.8 Day
Berth Capacity ( No. of ships)	2 vessels	4 vessels
Berth Capacity ( No. of TEUs)	5000/TEUs (Panamex)	14500 TEUs ( Post Panamex)

#### 4.2.4. Colombia

In the 1960s, management and operation of the main ports were centralized under Colpuertos, a national monopoly port authority. The absence of a clear regulatory policy or incentives to increase investments in the sector led to continuing problems, particularly underinvestment.

The government therefore allowed private firms, in the 1970s, to operate terminals and berths in the major port districts alongside the public terminals managed by Colpuertos. These private berths handled mainly liquid and solid bulk trades, accounting for about 70 to 80 percent of the total traded volume in the country (64 million tons in 1996).

In 1980, Colpuertos was commercialized as a state-owned enterprise, but its performance did not improve, which led to a financial crisis by the end of the 1980s and in 1991. An enacted law defined private regional port companies as concessionaires responsible for administration and management of the general cargo ports, established the General Port Superintendent as regulator of the concessions, and defined conditions of operation to ensure free and fair competition among port companies and port operators. The concessionaires were allowed to set tariffs within guidelines established by the port regulator, and were required to work with the government on future investment plans.

Concessions were awarded to the highest lease offer for twenty years within an ownership structure favoring a 70/30 split between the private and public sectors, with the government retaining ownership of the port infrastructure. The public sector share was divided between the national government (3%), the state government (12%), and the municipality (15%).

**Table 10: Ports' Performance – Before and after PPP - Colombia**

<b>Operating Performance – Before and After Reform</b>		
<b>Indicator</b>	<b>Before 1993</b>	<b>1996</b>
<b>Average vessel waiting time (days)</b>	10	< 2 days
<b>Working days per year</b>	280	365
<b>Working hours per day</b>	16	24
<b>Tons per vessel per day</b>		
<b>Bulk cargo</b>	500	2500*
<b>General cargo</b>	750	1700
<b>Container per vessel per hour (gross)</b>	16	25
* Minimum Source: (Colombia General Port Superintendent, July 1997)		

From 1991 to 1993, general cargo port terminals were privatized with a separate concession offered to each port. The concessionaires quickly found that the business can be very successful and became quite competitive, which dramatically increased productivity.

In 1993 alone, the public ports registered a 45 percent increase in general cargo throughput (although this growth coincided with the economic liberalization that boosted the country's trade). Increases in productivity have prompted many global shipping lines to begin including port calls in Colombia.

The concessionaires' success ensured a steady flow of lease revenue for the government, amounting to about US\$25 million in 1996 (Gaviria, 1998).

**Table 11: Private and public investments in ports - Colombia (1993 – 2000)**

<b>Investment in New Port Infrastructure and Equipment, 1993 – 2000</b>		
<b>Millions of U.S. dollars</b>		
<b>Source of Investment</b>	<b>1993-96</b>	<b>1997-2000</b>
<b>Private</b>	199	270
<b>Regional port societies</b>	59	240
<b>Berths</b>	90	30
<b>Stevedores</b>	50	-
<b>Government (dredging)</b>	17	12
- Not available Source: (Colombia General Port Superintendent, July 1997)		

The ports' productivity growth resulted mainly from:

- 1) Increased competition among private stevedores at each port, and new investments in container handling equipment. (The port operators started investing heavily in container cranes, and stevedore companies invested in shoreside equipment, including reach spreaders, top lifters, tractors and chassis, and other yard equipment.).
- 2) Improved company management.

New investment by the private regional port companies was low in the initial years, but then increased substantially and is forecast to continue.

According to figures from the National Agency of Infrastructure (ANI), between 2010 and 2018, the investment executed in port terminals for public use in the country reached 2.558 million dollars; 13 new concessions were approved, and 15 permits renewed. Because of these investments, ports in Colombia have grown in capacity and cargo from 286 million tons in 2010 to 444 million tons in 2018 (a 55.24% increase). Between 2010 and 2017, USD 158 million were invested in port access channels.



**Figure 5: Ports in Colombia**

#### **4.2.5. Croatia**

Croatia is a country at the crossroads of Central and Southeast Europe, on the Adriatic Sea. It borders Slovenia to the northwest, Hungary to the northeast, Serbia to the east, Bosnia and Herzegovina, and Montenegro to the southeast, sharing a maritime border with Italy. Due to its geographical position, the port of Rijeka (largest port in Croatia) enables the quickest trades between Central and Eastern Europe.

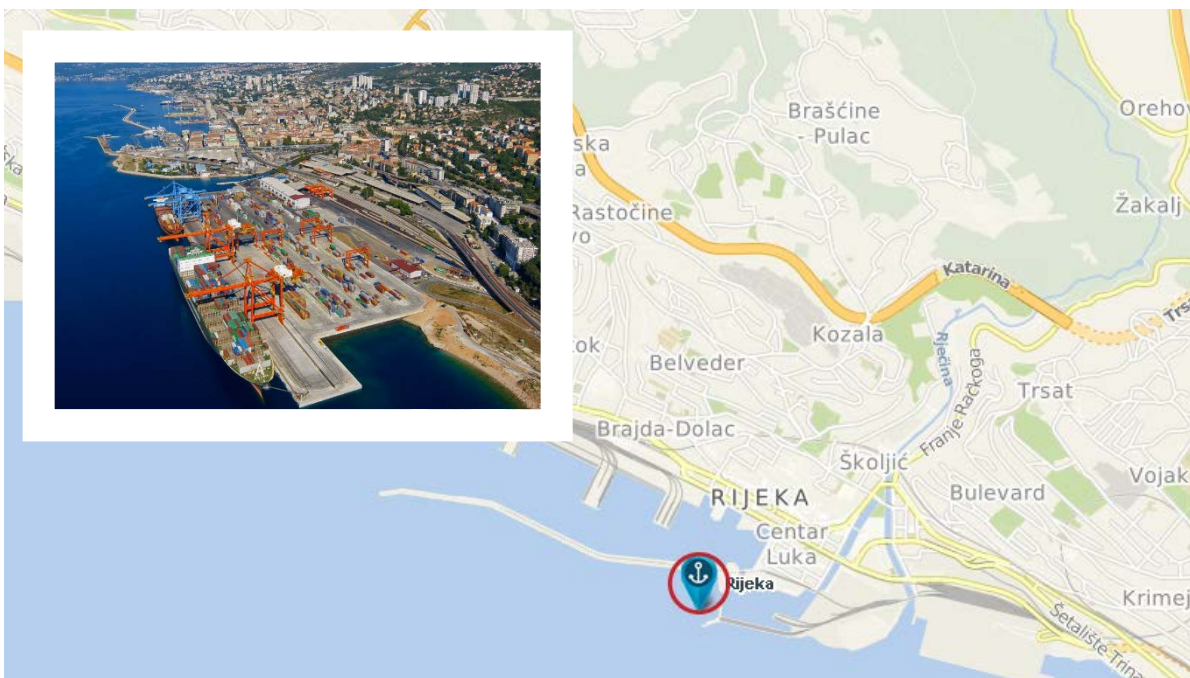
In 1913, the port of Rijeka ranked 10th in transport volume among European ports. But in 1920, after Rijeka became an independent city-state, the port’s activity started to decline; and during World War I, traffic through the port of Rijeka was only within the Adriatic Sea, with no trade or traffic with overseas countries. (Port of Rijeka, n.d.)

During World War II, Rijeka was targeted by around 30 Allied bombing raids after the port was used as a war base. And in 1945, retreating Germans damaged approximately 90% of the port facilities.

After World War II, Rijeka became a part of Croatia and Yugoslavia, which opened the way for a new market and further development in the port. In 1996, the Port of Rijeka Authority was founded by the Republic of Croatia as the first port authority in the country, in charge of planning and strategic

development, including the issuing of concessions and permits, supervision, safety of navigation in the port area, security and fire protection, as well as waste management. Business operations are managed by the port concessionaires.

In 2011, Luka Rijeka, a concessionaire of the Port of Rijeka signed a contract of strategic partnership with International Container Terminal Services Inc. (ICTSI) and Jadranska Vrata, the second concessionaire of the Port of Rijeka, to operate the container terminal. The partnership aimed to expand the terminal's capacity to 600,000 TEUs. The contract also stipulated that the concession for operating the terminal would be for 30 years, with an investment of 54 million euro. It was estimated that ICTSI and Luka Rijeka would invest up to 135 million euro in the Port of Rijeka (Luka Rijeka d.d., 2011).



**Figure 6: Port of Rijeka – Croatia**

#### **4.2.6. India**

India, bounded by the Indian ocean to the south, the Arabian Sea to the southwest, and the Bay of Bengal to the southeast, has a 7500 km long coastline with approximately 200 ports. The concept of involving the private sector in ports started in India in the 1980s.

In the late 1990s and early 2000s, many countries, such as Sri Lanka, Pakistan, and India, started adopting the concept of Landlord Ports. In 1998, a concession was signed for the first port developed and operated under a PPP scheme in India: Gujarat Pipavav Port Limited. As a result of PPPs, large and medium Landlord Ports improved; implementation and experience of Landlord Ports in India has varied and was ameliorated since then (Dappe & Alemán, 2016).

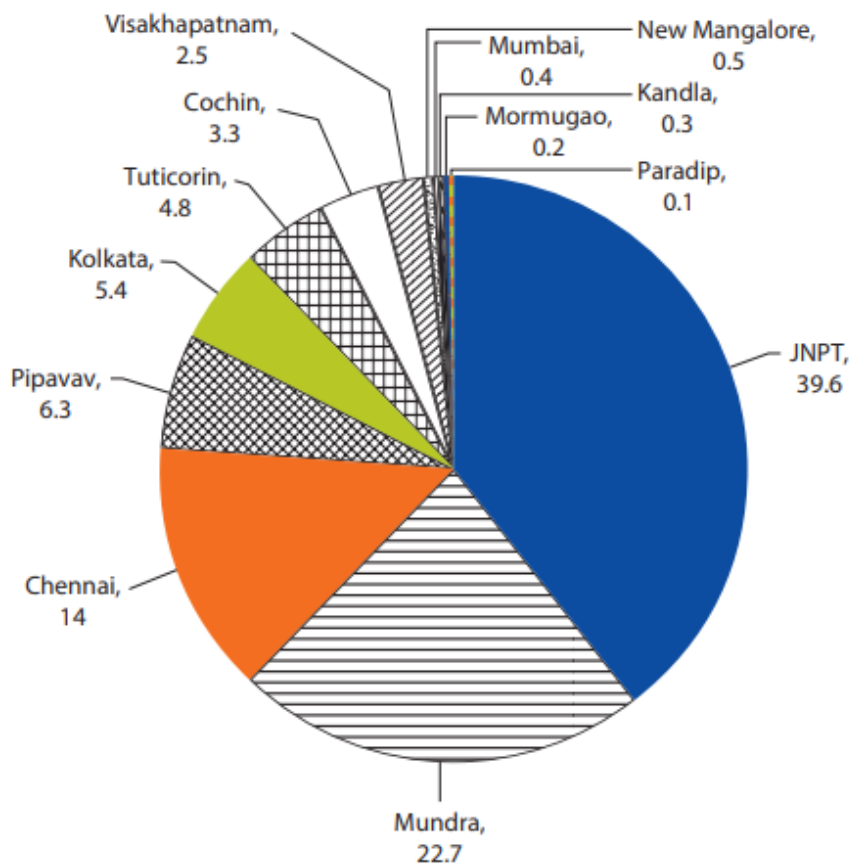
India's main motivations for port PPPs were to increase competition, enhance ports' performance, attract more investments and funding, and strengthen connection and trade with global markets.

The Government has been encouraging private sector participation in port development since 1996. The major areas that were open for private investment - mainly on Build, Operate and Transfer (BOT)

basis with revenue sharing mechanism - include construction of cargo handling berths, container terminals and warehousing facilities, installation of cargo handling equipment, construction of dry-docks and ship repair facilities, etc. The preferred mode for private sector participation is through open competitive bidding (Ministry of Shipping, 2011).

In India, there are major ports and non-major ports, with each type being subjected to different regulatory regimes; but overall, regulation of planning, investment, and tariff-setting is far more difficult for major ports than for non-major ports. There are 13 major ports, one of which is privately owned (Mundra Port).

At present, there are 22 projects with private participation on a BOT basis at major ports, and 21 more projects under implementation.



Source: Ministry of Road Transport and Highways of India 2014.

Note: Figures are shares of TEUs.

**Figure 7: Distribution of Containers in India among the 13 major ports – 2013 (in %)**

As shown in the figure above, the highest container throughput is by Jawaharlal Nehru Port Terminal (JNPT) with 39.6%, followed by Mundra (which is the only private major port) with 22.7%. JNPT is completely controlled by the government.

A key to India’s port containers’ success is the private investment. By 2013, there were 58 ports in India with a total investment of \$11 billion from the private sector, another 83 ports were under consideration with a total expected investment of \$23 billion (Dappe & Alemán, 2016). Private sector investment in India’s ports led to an increasing annual capacity and volume of throughput.



The Public Private Partnership (PPP) is the preferred mode for implementing all new berth projects. Port projects are awarded through the competitive bidding process according to the revenue sharing model.



**Figure 8: Ports in India**

### 4.3. Analysis of some PPP cases

#### 4.3.1. Greece – Port of Piraeus

The port of Piraeus has served as Greece’s largest and most important port since ancient times, handling 75% of the country’s container trade. It is also one of the main ports on the Mediterranean.

In 2003, the port was corporatized with shares floating to the public (Corporatization of PPA with 25.5% of shares in the port to the public). The Government kept pushing for reform in the port that was previously operated as a public service. In 2004, serious discussion for a PPP at Piraeus began, and a second round of competitive PPP bidding in the country’s port sector was announced. The contract was awarded to COSCO pacific in 2008, since it pledged a higher percentage of concession profits (21% for the 1<sup>st</sup> 8 years and 24.5% thereafter).

#### **Factors that led to the PPP:**

1. The need to invest in new infrastructure that would allow the port to accommodate larger, specialized container ships (it was roughly estimated that an investment of EUR 400MM would be needed).
2. The need to improve the port’s operational efficiency. Prior to the concession, costs associated with operational inefficiencies were 40% higher at Piraeus than at other ports.

3. The need to reduce the risks associated with the volatile transshipment markets (allocate risks to the private sector).

The concession was awarded for 30 years, with an extension option of 5 years conditional on completion of the Pier III investment Program, with an initial payment of EUR 50 Million.

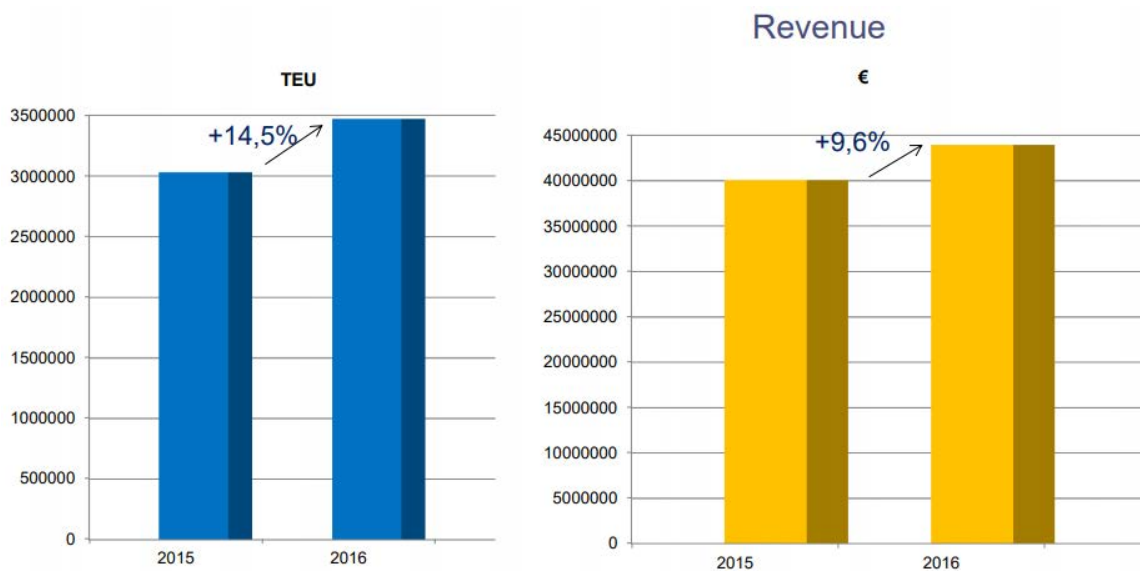
COSCO pays 100 million euros every year for its presence at the port. COSCO's involvement led to protests from PPA trade unionists, who complained from salary and social benefits reductions, exclusion of union members, and increased pressure on time and performance.

On the other hand, the economic performance of container handling has greatly improved since 2009. Before COSCO took over, the port's container handling record was at 1.5 million TEUs. These figures rose to 3.692 million containers in 2017. As a result, revenue and profits soared. In 2017 the Athens stock exchange listed the company (OLP) as having almost doubled its pre-tax profits from 11 to 21.2 million euros.

As of 10 August 2016, COSCO owns a share of 67% of Piraeus Port Authority, the Hellenic Republic Asset Development Fund (HRADF) 7.14%, and other investors 25,86 %. COSCO originally owned 51% after HRADF sold 51% of Piraeus Port Authority to COSCO, but then COSCO acquired the additional 16% directly from HRADF (see Figure 12).

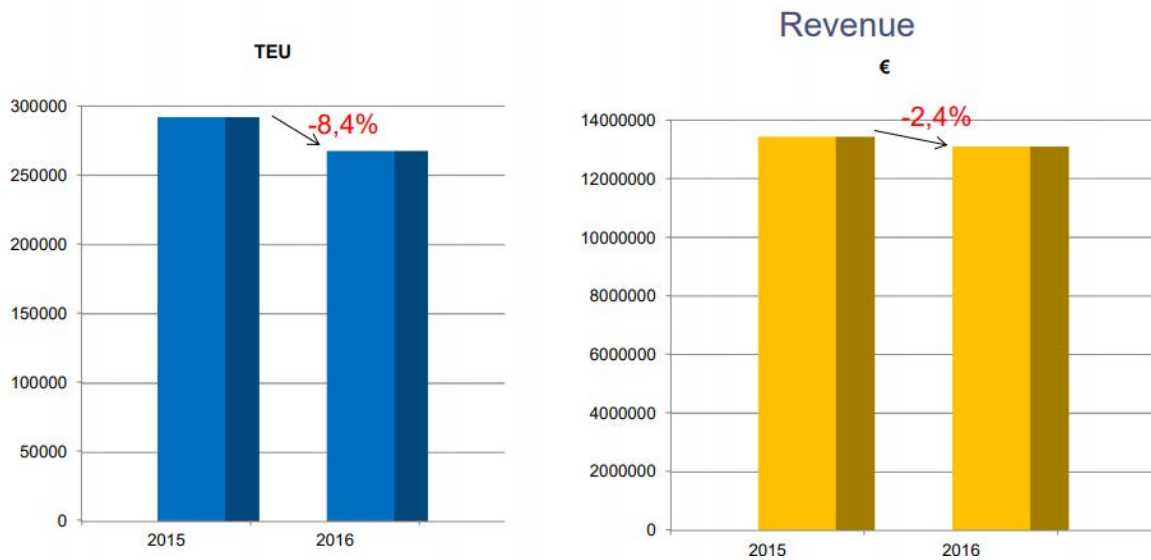
HRADF exploits the Greek State's assets assigned to it and manages the implementation of the privatization program in Greece.

It is important to note that COSCO made a concession agreement with the Government of Greece in order to operate Piers 2 & 3 at the Venizelos container terminal. Pier 1 remained under Piraeus Port Authority. Therefore, Piers 2 & 3 became the Piraeus Container Terminal (PCT), while Pier 1 became the Piraeus Port Authority (PPA) Container Terminal. As displayed in Figures 10&11, Piers II and III have increased TEU cargo volumes by 14.5% within only one year (from 2015 to 2016), thus increasing the port's revenues by 9.6%. Whereas Pier I, operating under PPA, decreased TEU cargo volume by 8.4% during the same year, and therefore suffered financial losses with a revenue decline of 2.4%.



**Figure 9: Container Terminal: Pier II + III (Under Concession)**  
(Source: Piraeus Port Authority)





**Figure 10: Container Terminal: Pier I (under PPA authority)**  
 (Source: Piraeus Port Authority)

Note: the progress registered in the PPP terminals between 2015 and 2016 has been constantly recorded at the same growth in TEUs, to reach a total of 4,400,000 in 2018 (2,5 times the total for 2010, thanks to transshipments and feeder volumes brought by the TO operator and its shipping line’s partner).

Although the contracting authority is Piraeus Port Authority, the history of port reform in Greece shows a leading role for the central Government in the procurement process. PPA acts as the landlord and regulator and provides a range of common services. It is responsible for the dredging and maintenance of the access channel to the port, navigation aids and navigation safety, and the provision of marine services (pilotage and towage).

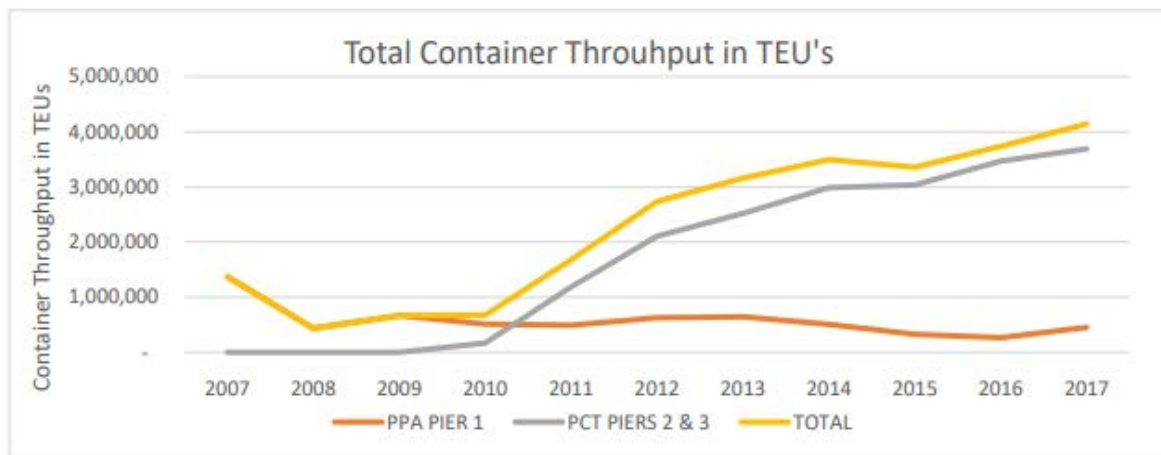
COSCO Pacific (the concessionaire) is responsible for the construction and maintenance of terminal infrastructure, the provision of mechanical equipment (in part transferred from Piraeus Port Authority), and the provision of cargo handling services.

**Table 12: Risk Allocation – Port of Piraeus**

Risks	↔					
Design and construction	✓					
Maintenance		✓				
Exploitation	✓					
Commercial / Revenue	✓					
Financial	✓					
Regulatory						✓
Force Majeure				✓		
Social Risk		✓				

- Market risks are shared to some extent through the “percentage of gross revenues” component of the concession fee. However, the majority of the market risk is held by the terminal operator, due to the existence of challenging throughput guarantees and fixed annual lease payments.

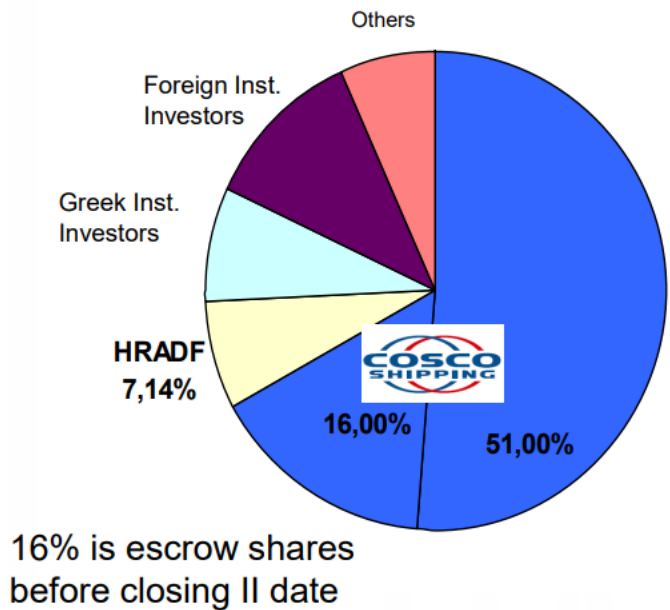
- Financial risks are also held largely by the operator, due to the existence of a fixed construction Program, and the limited scope for reductions in operating costs after the operator’s freedom to alter conditions of employment was curtailed in response to union demands.
- The risk of loss of business due to industrial action is held largely by the operator, although there is provision for the concession agreement to be extended (to up to 42 years) if terminal operations are disrupted by the actions of OLP.
- With regard to force majeure, in accordance with the contract, the Concessionaire will bear the financial consequences of a force majeure event to the extent that the Concessionaire has procured for adequate insurance. The State will compensate the Concessionaire for any financial consequences of any force majeure event in excess to those borne by the Concessionaire.



Piraeus Container Throughput. Based on data from PCT & PPA.

**Figure 11: Total Container Throughput - Port of Piraeus**

The port concession is estimated to have had a significant economic impact, with an added value of EUR 800 MM by 2015, as well as higher employment levels at the port (2600 direct jobs and 8000 indirect jobs). Despite bad expectations from COSCO, port of Piraeus is regarded as one of the most successful PPPs in Greece.



**Figure 12: Shares distribution in Port of Piraeus**

#### 4.3.2. Spain – Barcelona Muelle Costa Terminal

As a coastal city, Barcelona provides some trade advantages that make it one of the most competitive European Short Sea Shipping (SSS) ports. Mainly due to its geographical location, the port of Barcelona is very competitive in the establishment of SSS corridors across the Mediterranean.

Following the reorganization of the port of Barcelona (BPA) in 2007, Muelle Costa was freed up for new use. Along with the principles established by Law 48/2003 - validated by Law 31/2007 - Spanish port legislation encourages public-private collaboration on port activities in order to promote competitiveness. The main purpose of the Muelle Costa project was to consolidate Barcelona’s position as a major hub for SSS routes and activities.

#### 4.3.3. Spain – Barcelona Europe South Terminal (BEST)

The port of Barcelona is one of Europe's major ports on the Mediterranean, Catalonia’s largest port, Spain’s 3<sup>rd</sup> and Europe's 9<sup>th</sup> largest container port. It is managed by the Port Authority of Barcelona (BPA).

In order to ensure a competitive and efficient container terminal, BPA adopted a PPP approach. It launched a tendering process and the concession was awarded in 2006 to Hutchinson ports (a private holding company comprised of 48 port operations throughout Asia, the Middle East, Africa, Europe, the Americas and Australasia) through their subsidiary TERCAT SA. Hutchinson Port offered to build and equip a state-of-the-art semi-automated terminal, and guaranteed a container traffic with annual increase in order to reach maximum capacity as soon as possible.

The total investment cost for the project was EUR 860M, with a concession period of 30 years, and an option for additional concession to be granted if the concessionaire was able to reach 80% capacity utilization in the first 2 years with over 50% transshipment.

The procurement model agreed upon was DBOFMT – Design, Build, Finance, Operate, Maintain and Transfer. Although initially planned for 2008, the works were delayed until 2010. The terminal started to operate in July 2012.

**Factors that led to the PPP:**

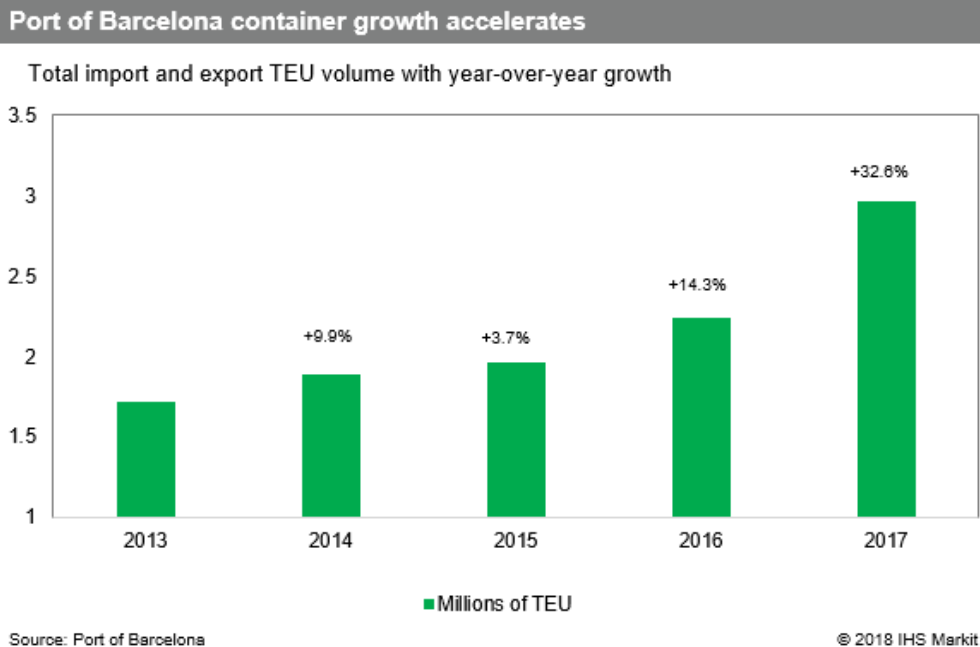
1. There was not enough infrastructure in Southern Europe.
2. 80% of the cargo that passes through the MED was being handled by North European Ports.

**Table 13: Risk Allocation – BEST**

Risks	Totally Private	↔					Totally Public	
Design and construction			✓					
Maintenance		✓						
Exploitation		✓						
Commercial / Revenue		✓						
Financial		✓						
Environmental				✓				

The success of BEST was partly dependent on proper risk allocation of certain operations to the more capable partner.

The agreement ensured that HPH would handle the majority of operation risks and bear the design risk of the container terminal without interfering with the original design created by BPA. HPH would also handle the risks of construction, maintenance, operations, traffic, exit and financing of the project (along with all the obligations and possible delays that might incur), and bear the exploitation risk where a guarantee amounting to 50-100% of the annual fee was imposed. The contract did not specify the obligations required from either of the involved parties in the case of force majeure.



**Figure 13: Container growth 2013 to 2017 – Port of Barcelona**

According to Figure 13, transshipment containers skyrocketed to 137% and rail volume increased by 8% to a record of 243,585 TEU. Import traffic grew by 8.3%, and export shipments were up 2.6% from 2016, with China consolidating its position as Barcelona’s top trading partner, accounting for just over 44% of the port’s imports and 11.6% of exports.

Barcelona South Container Terminal is considered the most technologically advanced port development project in Spain and one of the most modern port installations on the Mediterranean.

The Barcelona Europe South Terminal has been a major boost for the Spanish port industry and economy as a whole. The new terminal contributes to the economy not only by increasing trade in Barcelona, but also by creating 600 direct and 2000 indirect jobs.

Although financial support was required even after the disbursement made by BPA to rehabilitate the pier and service needs, the accommodation and stimulation of traffic growth, and port development strategy were the main reasons for undertaking this project.

The concession period agreed upon was 15 years, renewable for a further 7.5 years. The project costs amounted to EUR 22M, with a procurement model listed as BOT – Build, Operate and Transfer. The Terminal opened to the public in July 2013.

**Table 14: Risk Allocation – Barcelona Muelle Costa Terminal**

Risks	Totally Private	↔					Totally Public	
Design and construction			✓					
Maintenance		✓						
Exploitation		✓						
Commercial / Revenue		✓						
Financial		✓						
Environmental				✓				

The allocation of risk goes primarily to the private party. There are significant gaps concerning the nature and allocation of risk, such as no mention of force majeure setbacks, or regulatory modifications affecting the economic outcome of the project and/or the obligations that concessionaire may have to face. The main risk allocated to the concessionaire is the traffic risk. With the highest impact risk allocated to the private party, Atlantica di Navigazione carries on construction based on BPA designs, bearing the construction risk and being penalized in case of delays. The private party handles the entire risk of maintenance and operations. If the concessionaire remains inactive for more than 12 months, BPA has the right to terminate the contract.

Involving all stakeholders in the project during the negotiation procedure proved crucial for the success and effectiveness of this terminal, since it allowed the port authority to execute this PPP in time of low interest on infrastructure investments by the private sector following the 2008 financial crisis. In addition, in times of shrinking SSS market, the Port of Barcelona was able to capitalize on its strategic location to deliver a growth of 5.1% CAGR since 2013.

## 5. Critical Factors & Issues of PPP in Ports

### 5.1. Critical Success Factors

#### 1- Comprehensive and solid vision

Creating a shared vision between the public sector and all concerned stakeholders is not always easy, it might also be problematic within the public sector itself. It ultimately should come from a consensus-building process that takes careful account of the opportunities, objectives, and overall goals of the community. The vision should include a clear strategy for implementation, which means funding mechanisms, clearly specified responsibilities for potential partners, and an accurate agenda or time frame for completion.

The scale and range of the hinterland should be assessed as accurately as possible, including for potential transit with neighboring markets and transshipments with short distance ports, which might be a subject of dispute.

Market conditions and demographics must also be carefully analyzed to ensure the vision is not too narrow to meet the community's needs or too big to face the financial risks.

#### 2- Allocation of risks

A central principle of risk allocation is that each risk should be allocated to whoever can manage it best. The allocated risks' management by the private sector enhances the project's progress and completion and increases success rates.

Port PPP projects are generally revenue-based concessions, whereby the Private Party pays a fee (fixed and volume based) to the government authority for the right to operate the port. The Private Partner therefore assumes demand/revenue risk, which may be mitigated if there is a minimum revenue guarantee from the Contracting Authority.

Because PPP arrangements are long-term and complex, contracts tend to create room for differences in interpretation, and disputes can arise. Defining a dispute resolution process ensures that potential disputes would be resolved quickly and efficiently, without interruption of service. Dispute resolution mechanisms can be built into the PPP contract.

#### 3- Appropriate Procedures and regulations

One of the main factors for a successful PPP is the existence of a legal regime based on the principles of transparency, competitiveness, and accountability.

The port authority must play a crucial role in setting the rules, procedures and regulations that might affect the port sector, and maintaining hands-on regulatory procedures over what goes on within the public private partnerships.

#### 4- Accurate project implementation

Facilitation and identification of the tendering process (in which all stakeholders must be involved), clear definitions and procedures of various tasks, and administrative approval from competent authorities at different stages of the project implementation process are necessary in running a successful PPP Program.

An accurate port project implementation involves many steps: structuring and appraising the PPP, designing the PPP contract, selecting partners, final negotiation and implementing the PPP transaction.

#### 5- Duties and obligations of each partner

To enable the government to effectively manage the contract, certain roles and responsibilities must be clearly required from the private partner. The government will keep and revise its role, possibly at different levels, in managing the contract. It will have a strategic commercial

contract management role in sharing policy and other strategic developments with the private partner.

The public partner maintains a strict presence and authority while seeking the ports' best interest, which allows all stakeholders to know their exact duties and obligations, thus ensuring a seamless and effective partnership between the parties.

6- A clear and fair tendering process

Generally, the private party of a PPP is chosen by means of a public tender, given the public interest of such a competition, which gives a chance to all involved bidders with experience and credibility in port services and operation. A well-structured tendering process is therefore the basis for minimizing tendering costs and encouraging competition.

The final stage is the selection and formal contract, after which the project contract can start.

7- Follow-up & Monitoring

To achieve the whole life value for money promised by a PPP, the government needs to ensure that the planned allocation of responsibilities and risks is put into practice, monitored, recorded, and continually analyzed and verified. Monitoring can be done by a variety of methods, such as data provided by the private party (performance data shown in regular reports) and further verified, independent experts (by checking on service standards), and service users (by processes for feedback including, for instance, satisfaction surveys).

## **5.2. Issues related to PPP**

A PPP project differs from a conventional public sector project, and it can only be accomplished through a detailed and complex contract. The contract is crucial for maintaining a business relationship between the public and private sectors. Despite a clear contract between both parties, a PPP can still be obstructed by many issues that should be defined and avoided in order for the project to succeed and bring both partners their desired objectives.

An extensive (though not exhaustive) list of issues that could be faced in a PPP are:

### **1. Limits / frontiers between the public and the private sectors**

- Public property / ownership of assets & functions prioritizing strategic issues related to national sovereignty.

The public sector must relinquish its rights on assets ownership and public property to the private sector until the end of the concession when they will be transferred back to the government.

- Public service (obligations, counterparts...).

Public services are usually managed and delivered by the government; but in a PPP, the private sector delivers public services in a way that aligns the government's objectives with the private partner's profit objectives and demand for some form of compensation if duties are not properly remunerated.

- Balance of powers.

Theoretically, the contract should provide constraints and ensure that both parties have equal stakes in the relationship. In reality, the contract might however not be well designed to ensure the power balance, which would enable one party to shift the risks to the other weaker party, in which case an arbitration might be necessary before an Arbitration Court to be agreed upon.



- **Politics & Policy.**  
PPPs in ports require strong political support. In countries where ports have played an important role in the economy, changing from a Public Port model to a Landlord model can meet significant opposition, or result in tensions between the political context and the management policy.
- **Influence / lobbying.**  
Companies can influence politicians to ensure that governments will accomplish a project on a PPP basis, then renegotiate the contract terms during the concession period if and when this is justified. A PPP could give the private sector access to government information and public officials, thus allowing it to lobby for profitable PPPs, knowing that Governments, Port Authorities and Partnering Operators do not necessarily pursue the same objectives in the short term (profitability vs competitive conditions) and mid/ long terms (further developments depending directly on port related challenges).

## **2. Regulation**

- **Framework (Law & contracts).**  
Public Private Partnerships are legally complex since their implementation and application affect several branches of the law. This may lead to the implementation of new specific legal rules.
- **Body / qualified persons (mixed PP, independent, external etc.).**  
The skills required to assess, and monitor PPPs are different from traditional skills in the public service. A successful PPP requires expert staff, including sector-specific technical skills and expertise in regulation, including possibly high-level training.
- **Scope & fields.**  
The contract must take account of and reflect the chosen model of port management. If switching to a Landlord model, the Public Port authority's set-up and a mandate are required to ensure transparency.
- **Coordination (method).**  
Ensuring an effective regulation process and coordination to remove regulatory obstacles are required, whether through coordination between government officials or between the public and private sectors.
- **Monitoring, audit, evaluation.**  
Inefficient monitoring and evaluation can result in increased costs for the project. The audit of PPP projects differs from that of public entities. While promoting accountability, the audit should not discourage the private sector's involvement, investment and management.
- **Beyond contract issues (e.g. impact, competition).**  
The complexity of PPP contracts may lead to limited participation in the tender, thus favoring anticompetitive agreements among the few potential players. Besides, the PPP might have indirect impacts on the port's general economic and social environment, including a change in traditional practices and the need for a transition period.
- **Review, follow-up of conclusions and recommendations.**  
Given that PPP projects, and more specifically port PPP projects, are usually long term and complex, PPP contracts require regular review to ensure that the project is following its



intended process with no hindrances and can adapt to unforeseen circumstances or revised forecasts.

➤ Corrective measures.

Corrective measures are necessary to ensure compliance with the contract laws and regulations, and not just listed to satisfy auditors. In the event they are not included and applied as agreed, the PPP project could potentially be subject to unnecessary risks with serious financial implications.

### 3. Private Partners

➤ Profile per category of PP activities.

Each private firm must introduce itself with a complete application file, including a company profile, history, ownership structure and partners, past performances, and proofs that it has the needed expertise to execute the proposed project.

➤ Consultation process: open vs shortlist alternative (pre-qualification phase).

Given the size and complexity of port PPP projects, the government usually favors a procedure that restricts the number of tenderers in order to have a more detailed consultation process with them on the project's contents, and be able to carefully judge the quality of tenderers' proposals. Therefore, the full open procedure is not recommended for procuring PPPs and is very rarely used. As a first step, an open prequalification phase is implemented on the basis of selection and quantifiable criteria, then a list of preselected companies / JV is formed. Since the number of potential applicants is more and more concentrated, the preparation of the process is simplified.

➤ Selection: criteria / capacities (financial, technical /pro ...).

A critical issue in public private partnerships (PPPs) for port infrastructure is the selection of the right private sector partner. Selection criteria usually include financing, technique, management, and safety, along with the more recently added environmental (green) aspects.

➤ Competitive Dialogue.

The Competitive Dialogue is a procurement procedure that enables the public sector to have a dialogue phase with pre-qualified contractors before awarding the contract.

➤ Risks of overestimated offers.

These risks often occur when applicants want to show they would be good marketers for the project.

➤ Change of partner (implying or not the revision of contracts terms).

During contract negotiations, amendments are not encouraged, sometimes prohibited or allowed with restrictions depending on the conditions in which they were suggested. Renegotiation of contract terms will distort the competitive bidding, and/or reduce the economic benefits of a PPP. However, after project completion, the private partner is allowed to change his shareholding arrangements (owners), provided that this change does not add risk to the public sector and is duly and timely explained to the public partner.

#### **4. Indicators**

- Port / terminal performance, all kinds (vessels, cargo...).  
Failure to meet port and terminal performance levels will have a direct effect on the revenues, as well as indirect effects, such as liquidated damages and penalties. It is the private sector's responsibility to ensure that the port meets its performance target.
- Financial indicators.  
Financing a PPP project can include complex and high transaction costs, long negotiations between parties, and strict monitoring compared to regular public service projects. Clear reporting procedures are therefore indispensable.

#### **5. Financing / Funding**

- General Financial conditions (instruments, etc...).  
Project finance arrangements are highly leveraged, and the private sector receives no guarantees beyond the right to be paid from cash flows of the project operation.
- Port specifics.  
Royalties and fees: entry ticket, yearly fixed/variable payments, subsidies (vs public service obligations). Port tariffs are made up of charges for the costs incurred by the operator and detailed in public open access.
- International institutions.  
Recognizing some PPP projects' need to meet the required financing, a PPP project will include financing from various sources and forms (equity + debt); and international institutions like the UN or the World Bank or other Public International and Regional Banks and Funds can support countries in the region by involving the private sector in port infrastructure development.
- Conditions of payment.  
The conditions and availability of finance may influence the terms of a PPP contract.

#### **6. Risks**

- Legal / contract.  
Legal risk refers to risk arising from the legal and regulatory systems surrounding PPPs.
- Financial.  
When availability of finance is uncertain before, during or after port construction. This risk is usually allocated to the private sector.
- Commercial.  
Uncertainty about investment outlays, operating cash flows, supply, demand and asset values in relation to the project's commercialization.
- Social.  
Social risks can occur when stakeholders identify a project's vulnerability from a social perspective. Social risks can destroy the reputation of port and terminal PPP projects.

They may involve human rights, labor, acceptability by the port neighborhood or environmental sustainability.

➤ Environment, Safety, Security.

Environmental regulations will impose liabilities and constraints on a project. The cost of compliance can be significant and will need to be allocated to both parties. Minimum environmental requirements should be met in order to attract funding and investors in a PPP project.

## **7. Tariff & commercial conditions**

➤ Structure and level.

Although some PPPs allow for the private sector to set the tariffs and tariff structure, in most cases, tariffs (along with service standards) are regulated by the government to protect users, but also discussed with the private party, who relies on those conditions for its own business plan and for future adjustments.

➤ Equal treatment of port terminals users.

This should be a pre-requisite.

## **8. Competition issues**

➤ Within ports boundaries.

Concession agreements and market conditions often pressure terminals to compete. Port competitiveness drivers are generally criteria related to costs, efficiency, location, and infrastructure. It is frequent to allow a single operator – the private operator- to supply operations and services; this lack of competition reinforces the monitoring of a PPP.

➤ Between shipping lines.

A competitive liner shipping sector is vital for global transport. Competition is crucial in eliminating or restricting monopoly; practices that would affect economic development should also be addressed.

➤ Impact on all the transport chain.

The competition between ports is getting fiercer and stronger, and any factor affecting the level of competition should be well thought through, including for the impact on the whole transport chain. Connection to the port includes rail, roads, waterways and Short Sea Shipping (SSS), etc. This chain can lead to higher efficiency and lower cost for the whole process and, therefore, higher competitiveness with other ports; it should then be integrated in the PPP policy.

## 6. Comprehensive Vision

According to United Nations Conference on Trade and Development (2018), over 80% of world merchandise trade by volume and over 70% by value is carried by sea and handled by seaports worldwide, which increases competition between countries aiming to develop the activity and efficiency of their ports.

Nowadays, ports are not just passive points for ships between sea and land transport, they play an important role in the world transport system as a full-service industry and an active factor in the economy. Countries rely on them in marketing, when encouraging ships to use their ports for trade in order to increase throughput.

Ports in the Middle East handle about 20% of the global seaborne trade (all merchandises), thanks to their geographical advantage and well executed investments. These ports are located at the intersection of several trade routes and serve as hubs for other ports in the region and the world. (Moscatelli, et al., 2018).

Despite their high percentage of seaborne trade, Middle Eastern countries face critical challenges in cross border movement of capital, goods and labor; including the major issue of lacking a well-integrated transport system and infrastructure, without which the region will continue to struggle in achieving the desired efficiency, competition/connection with the rest of the world, as well as greater prosperity and sustainable growth. The United Nations Economic and Social Commission for Western Asia (ESCWA) supports the development of an integrated transport system, which led to the emergence of an action plan for the development of road and rail networks in the Arab region.

Middle Eastern ports are in close proximity; and since distance is a factor of increased competition between ports, Middle Eastern countries must take advantage of other factors (than geographical distance) for more competition and trade activity. They have to make every effort to be competitive in cost and quality of services, and transform ports into transport and distribution service centers. For most ports, this is not an option but a must, an essential requirement for survival in the sector.

Since these countries are geographically close, it would be smart to refrain from investing in new excessive overcapacity intended to capture volumes currently handled by nearby ports (investing in the same market). The region's interconnected national economies, and short distances between ports and major inland markets create many opportunities for different markets to compete and cooperate.

In the light of recent trends in ports development and the growing competition, there is an increasing need for ports sharing hinterland (nearby ports) to cooperate in beneficial strategies. One way of pressuring port authorities to achieve higher efficiencies and lower costs is for ports to form alliances and cooperate. Ports in close proximity, engaged in the same or similar markets and facing competition from other ports can cooperate to improve their competitiveness and profits through their respective PPPs.

Unfortunately, close cooperation between (neighboring) ports is an issue in several countries in the Middle East. This should be either driven bottom-up by port authorities themselves or stimulated by national or regional governments. There can be three levels of cooperation:

1. Port authorities that have developed strategic cooperation with other port authorities in their vicinity in the form of joint holdings, investments, acquisitions.
2. Port authorities that have some form of cooperation, but not on a strategic level.
3. Port authorities that do not have any form of cooperation with ports in their vicinity, despite being members of port associations or networks.

*Note: Another new form seems to emerge from some merging or acquisition between neighboring ports.*

Cooperation between nearby ports can bring major growth opportunities for the concerned countries. Currently, ports in the Middle East are not realizing their full potential due to a wrong perception of potential port users, and the political and personal factors that negatively affect good relations. Other advantages of cooperation can be:

- Risk reduction by the reduction of fixed cost, lower total capital investments, and faster entry and payback.
- Economies of scale and or rationalization, lower average cost from larger volumes delivered to the port, and lower cost by using the comparative advantages of each partner.
- Technology exchanges: companies can exchange patents and territories.
- Co-opting or blocking competition that is non-beneficial and costly between nearby ports with the same or similar markets.
- Overcoming government mandated trade or investment barriers by acquiring permits to operate as a “local” entity, because of local partnership and satisfying local content requirements between cooperating countries.
- Facilitating initial international expansion of inexperienced firms with help from the more experienced firms.
- Easier access and trade of materials, technology, labor, capital, regulatory permits and distribution channels.

On the regional level, cooperation between nearby ports can bring many benefits, such as increased profits and stronger social and political ties. Before deciding on whether to form an alliance or cooperation between ports, the limitations and possible challenges that could be faced should be discussed and studied to determine their level of influence on the decision-making process. Cooperation between nearby ports can face many challenges, such as:

- The various national policies and legal frameworks for operation of ports in the Middle East.
- Most of the time, large infrastructural developments and projects need government involvement; but long-term coordination on a multinational level is usually challenging due to each government’s specificity.
- Different port models have different goals; for example, landlord ports are concerned with a more market-driven approach, while a public service port’s main goal is providing public service.
- Differences in the cost of labor in each country.
- Different costs in running, operating and managing ports.

With the ever-increasing maritime activity, and the focus of countries on port development, neighboring countries in the Middle East have the possibility to be more market-driven and increase competition between maritime routes and operators of other regions, through ports cooperation and alliances.

**Figure 14: Some Middle Eastern Ports Connectivity**



## 7. Workshop Outputs

During the workshop (Amman 23-24 November 2019), participants expressed the wishes and main concerns listed below:

- 1) Link between PPPs and Sustainable Development Goals (SDGs).  
When well implemented, PPPs can achieve greater sustainability in ports provision.
- 2) Site Visits (Bilateral and Multilateral).  
Site visits to enhance cooperation and mutual knowledge, show the actual implementation of PPPs on site, and highlight their level of effectiveness and success in improving the port's activity.
- 3) Design of a virtual platform for interactive communication (ESCWA – GIS).  
Such a platform would assess ports' future in the Arab region, examine scenarios (according to future needs and developments), evaluate impacts, produce an agreed-upon vision for ports, and promote a better understanding of the dynamic links and causal relationships between port systems.
- 4) Termination of PPPs/Concession contracts (suitable alternatives).  
Ownership is transferred to the government at the end of the contract, who then might:
  - Extend the duration of the PPP contract.
  - Purchase the relevant infrastructure.
  - Sign a concession contract with different private partners.
  - Privatize the port.
- 5) Comparative analysis of PPP alternatives with maritime lines or terminal operators (Dubai Port) including Lines – Terminal Operators integrated groups.
- 6) Guidelines for main contracts (type – context – responsibilities), including the obligations, restrictions, rights, and allocations of each partner.
- 7) Raise awareness on the difference between PPPs and privatization for decision-making and the general public:
  - No transfer of public ownership.
  - The public sector remains accountable.
  - Contract-based not regulator-based.
- 8) Lessons learned from failed cases.  
Case studies and lessons learned are invaluable when planning, designing, structuring or executing port PPP projects.
- 9) Potential role of regional UN agencies.  
To improve the awareness, capacity and skills of the public sector in developing successful port PPPs in the Middle East.
- 10) Force majeure: elaboration on definition.  
Force majeure events are a limited set of events that may arise during the term of the PPP contract through no fault of either party. They are best managed by the private partner.



11) Enhance the importance of interconnection between Container Terminals and land transport networks.

12) **Partnership problems between the public and private sectors**

Actors using the ports as operators or customers could benefit from dialogue and discussions platform / windows to provide the appropriate environment for projects' success and the generation of a positive impact on the economic and social levels.

- Competition (management and implementation).
- Employment / skills and holders of acquired rights.
- Environment and the pollution dilemma.
- The economic contribution and profits/losses distribution.
- Management readiness in the concerned countries.
- Sustainability.
- Impact on the immediate surroundings (in a social and urban sense, agglomeration / urbanism).

## 8. Lessons Learned

In order to identify and resolve possible problems and improve the decision-making process when implementing Public Private Partnerships in ports, data is gathered from previous cases to analyze the lessons learned.

The aim of looking at countries' experiences is not just to analyze their successes or failures, but also to explore new ideas and methods of combining private finance with ports and figuring out what should or should not be done in Middle Eastern countries, whose geographical, economic and political conditions sometimes differ from those of Europe or America.

Some of the major lessons learned from previous applications of Public Private Partnerships in ports are:

1. Ensuring that deadlines for bid submissions are strictly followed, bid openings involve all relevant officials, technical evaluations are carefully conducted, and negotiations with the bidders involve all major bidders.
2. There should be strong government support, ensured through a flexible and clear legislative framework, tax exemptions to support port trade, rights guarantee for investors, etc.
3. Risk mitigation, with a fair distribution of risks between public and private partners. The government should balance the risk taken by the private sector with the expected project benefits and costs.
4. Flexibility of the agreement, with a latitude in adjusting the contract terms, considering the status quo of the port operation, the country and the entire region.
5. Bankability: stakeholders should realize the magnitude of the funding required, and the duration and risks associated with the construction period. This can be done by conducting pre-feasibility and feasibility analysis.
6. Ports economic forecasting does not resemble other PPP projects. More often than not, port forecast models are inaccurate since port activity is determined by market demand, and efficiency is affected by economic changes in seaborne trade/technical changes, such as vessels size requiring dedicated corresponding port terminal facilities in line with their size, and organizational changes, such as strategic alliances, mergers and acquisitions.

## 9. Recommendations

### 9.1. General

Most ports in the Middle East were generally managed by the government. However, due to the recent global interest in involving the private sector in financing, managing and operating ports, it has become crucial for Middle Eastern countries to study the possibility of PPPs in their ports, by learning from previous cases the success factors and potential issues of applying concession agreements.

The decision on whether or not to move forward with Public Private Partnerships in the port sector is in the hands of national governments; knowing that such a decision has to be made with the utmost care and awareness of the economic, political, commercial and regional impacts it will incur, and in consultations with stakeholders representing national port users.

Some of the recommendations on PPPs in ports inferred from this report are:

- Selection of a PPP model should be carefully performed in accordance with the national and regional context, the project / port specificities, technical and institutional constraints, and market conditions.
- If concession agreements in the port sector is the method chosen, a legislative framework for port development has to be established in each country according to its own laws and regulations in the transport sector.
- Each port authority has to apply clear and set regulations for tariffs imposed on ports' and terminals' users. When considering whether to award port concessions or enter into joint venture agreements, port authorities should be looking at the considered companies' financial history, previous experience and reputation. Potential PPP partners must satisfy any applicable financial and technical standards, and have relevant specialty, capability and efficiency. They must also follow the government's criteria of transparency, free competitiveness, equal opportunities, equality of market access and treatment, regulation of competition, and meeting public interest requirements.
- The term of a PPP must be stated in the PPP contract; the PPP Procedure Manual sets out various types of PPP and the contractual period for each. In addition, the PPP contract should specify the options after the concession agreement ends ("exit" options): whether or not to extend the concession, enter in a concession with another company, or transfer the responsibility back to the government, including the recovery of equipment from the original concession.
- Since port concessions, which are one form of PPP contracts typically applied to ports, are usually made to last a long period (an average of 30 to 35 years), the government must provide guarantees to the private companies, encouraging them to take on such complex and long-lasting projects. These guarantees can include the government's covering of a potential funding shortfall, a minimum level of service fees, flexibility in laws and regulations amendments; all of which protect private partners from any future regulatory policy.

This report does not only provide insight on whether or not a country should enter into a concession agreement in the port sector, but also on the effect of port concessions on competition and agreements between ports in the Middle East that are geographically close and rely on each other for the trade of goods. Therefore, unlike some other countries in Europe or America, countries in the Middle East should not only study their own economic and market demand before such a decision, but also the political and economic status of the neighboring countries to have a clear vision of their respective integration in the regional port network serving national transit and international maritime trade.

## 9.2. Tentative Roadmap

Knowing that each case is specific, with a particular context and constraints, the Consultant team prepared a tentative roadmap for a PPP implementation plan for ports projects which may help decision makers and stakeholders to minimize the risks and to optimize resources as well as project design and preparation.

This tentative roadmap could be structured into 4 main stages:

- **Market Study:** A key-issue; it should cover the local (national) level as well as regional and international hinterlands. All related parties and actors must be involved and/or consulted. The methodology should integrate available relevant data and sources, in addition to developing a realistic and comprehensive approach. Within this step, economic scenarios should be assessed and compared in order to adopt the most accurate as a base case for the project context.
- **Institutional Environment:** An adequate framework is a crucial mandatory component for any PPP implementation; the government must therefore choose suitable institutional tools in preparation for project launching and monitoring, which may require the creation of a special regulatory body or authority. For this stage, it is necessary to establish a communication plan that would ensure a large cohesion with stakeholders and the participation of main actors.
- **PPP Model selection:** Various possible PPP models must be analyzed and compared to reach the most suitable one that would include the risks allocation analysis and multicriteria evaluation, which should also take into consideration the impact (as well as the possible mitigation measures / solutions) on current actors and operators. The strategic role of the selected port (s) should be identified and adopted by the government (role at national level – regional and international positioning, potential regional / international volumes). Accordingly, the needs for PPP scheme have to be specified and prioritized. These needs might be different by cases and/or context (for example: to attract capital investment from private sector; to improve the whole operation by recourse to specialized firms; to enhance the port role as regional hub...). Among this stage the government should identify *major partners/actors* to be associated with the whole process. The consolidation of a “Port community” is a main boost for the project’s success.
- **Preparation of Bidding documents:** Based on the previous outlines, the government can prepare the bidding dossier that will include main topics and selection criteria, in addition to the following topics:
  - o The shortlisting process (financial conditions – previous experience – commitments).
  - o Template of the PPP contract with the main conditions (services to be provided – duration – extension – responsibilities...).
  - o Control and monitoring procedures.
  - o The selection criteria for the final selection and negotiation.

It should be noted that this roadmap is proposed as general guidelines and should be adjusted / amended in accordance with the specific context as well as available data and studies.

## **10. ANNEXES**

## **INFORMATION NOTE**

**ESCWA and IsDB in Cooperation with UNECE**

**Experts Group Meeting on PPP Projects for Ports.**

## **I. BACKGROUND**

The growing prevalence of Public Private Partnerships as a mechanism for developing, operating, and maintaining infrastructure has created the need for competent, capable and trained public sector personnel with the knowledge and expertise required to successfully guide infrastructure projects from inception, through the project pipeline and the bidding process, to financial closure and beyond. The capacity to monitor and evaluate project performance and renegotiate, if necessary, the terms of a complex PPP contract is crucial in ensuring that any country's PPP program successfully delivers services and infrastructure that serve the public interest without unfairly burdening the contracting public authority.

At the same time, PPPs might have undesirable anti-competitive effects that could raise prices and lower optimum efficiencies, unless properly structured. A strong legal and regulatory framework and a robust PPP contract with a focus on outputs (as opposed to inputs) are therefore essential. Selecting the right partner through the right procedures is also critical. Several options are on the table in this regard, including the possibility that China may simply nominate a Chinese company to work with the Government on developing the project.

Many countries around the world have had numerous experiences with Public Private Partnerships in the transportation sector, with mixed results. Some PPP projects have failed due to poor project preparation, an imbalance in the risks assumed by the parties, and even the structure of the partnership itself or the agreement terms. Changes in economic conditions often threaten the viability of a project; parties must therefore have the necessary contractual mechanisms, the internal capacity and flexibility to fairly and expediently adapt agreement terms accordingly. Ultimately, public service delivery should not be hindered or halted because parties cannot reach an adequate and reasonable solution to disagreements or respond to changes in the economic landscape.

## **II. OBJECTIVES**

The main objective of this meeting was to strengthen the capacity of senior government officials and public sector employees in the field of public-private partnership contracts in ports, with special attention dedicated to the preparation and drafting of PPP contracts, the bidding and selection process, and renegotiation and conflict resolution. It also focused on exploring the axes and models of regional cooperation that maximize the potential benefits of PPP projects in ports.

In particular, the meeting tried to contribute to the following concerns and issues:

- Identification of the top potential port operators in the region.
- State-of-the-art in operating models, and advantages / disadvantages of each operating model.
- Feasibility of each operating model from both the government and operators' viewpoints, and risks sharing between owners and operators.
- PPP models in relation with public interest.
- Evaluation criteria for potential port operators' capabilities and performances.
- Success requirements for the PPP project, i.e. the ideal situation key operational requirements for the success of the PPP model.



### **III. ORGANIZATION OF WORK**

#### **Day One, Saturday 23 November 2019**

##### **Session (1)**

Presentation of the meeting and its objectives:

Overview on Institutional models:

- Risk sharing matrices
- Benchmark (with focus on 4-5 cases)
- Road map for PPP processes

##### **Session (2)**

Presentations of Countries, Experience and Needs:

- Iraq
- Jordan
- Kuwait
- Lebanon
- Syria

#### **Day Two, Sunday 24 November 2019**

##### **Session (3)**

- Presentation of Private sector operators.

##### **Session (4)**

- Interactive session between representatives and experts.
- Lessons learned from success and failure stories / cases.
- Identification of framework for debates (tentatively: Institutional – Role of regulatory bodies / authorities – Selection criteria – Indicators);

Conclusions / Recommendations

### **IV. PARTICIPANTS**

- Government officials and representatives of concerned institutions: directors of planning, directors of legal and administrative affairs from ministries of transport and public works, representatives of maritime authorities and ports, and key institutions and agencies concerned by public private partnership projects in ports.
- Private sector representatives from key firms that invest in, operate, or maintain PPP projects in ports.

### **V. REGISTRATION**

Invited participants and those nominated by their government are kindly requested to complete and return the meeting registration form to ESCWA by Monday, 11 November 2019.

### **VI. DATE AND VENUE**

The meeting will be held 23-24 November 2019, in Amman, Jordan, at Le Royal Hotel (Zahran st., Tel: +962-6-4603000).

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## 11. References

- World Bank Group. (2019, 09 12). *Management/Operation and Maintenance Contracts*. Retrieved from World Bank Group: <https://ppp.worldbank.org/public-private-partnership/agreements/management-and-operating-contracts>
- Agos, F. E. (1991). *Multi-Purpose Port Terminals*. New York: UNCTAD.
- Dappe, M. H., & Alemán, A. S. (2016). *Competitiveness of South Asia's Container Ports : A Comprehensive Assessment of Performance, Drivers, and Costs*. World Bank Group.
- dpworld. (n.d.). *dpworld*. Retrieved from <http://dpworld.ae/>
- European Conference of Ministers of Transport. (1998). *Land Access to Sea Ports*. Paris: Economic Research Centre.
- Gateway, M. (2018). *INDIAN CONTAINER MARKET REPORT*. gateway research.
- Gaviria, J. (1998). *Port Privatization and Competition in Colombia*. The World Bank Group.
- Guide, C. C. (2019, 10 16). *Colombia - Infrastructure*. Retrieved from export.gov: <https://www.export.gov/article?id=Colombia-infrastructure>
- gulftainer. (n.d.). *UAE - KHORFAKKAN CONTAINER TERMINAL*. Retrieved from gulftainer: <https://www.gulftainer.com/terminals/uae/khorfakkan-container-terminal/>
- Logistics, A. C. (2011). *The Role of port development and cooperation from a strategic perspective / How to create a central hub in STC/ Port of Køge and hereby enhance collaboration in the Baltic Sea Region*. Køge, Denmark: Scandinavian Transport Centre (STC) .
- Luka Rijeka d.d. (2011). Press release.
- Ministry of Shipping. (2011). *MARITIME AGENDA : 2010 - 2020*. India: Government of India.
- Moscattelli, G., Delenclos, F. X., Madireddy, A., Rasmussen, A., Sanders, U., & Egloff , C. (2018). *Will Middle Eastern Ports Continue to Succeed?* The Boston Consulting Group.
- Panagopoulou, M. (2015). *Classification of Ports*. Greece: Merchant Marine Academy.
- Port Of Beirut. (2013). *Port Of Beirut*. Retrieved from Port Of Beirut.: <http://www.portdebeyrouth.com/index.php/en/history>
- Port of Rijeka. (n.d.). *Port of Rijeka*. Retrieved from Port of Rijeka: [https://en.wikipedia.org/wiki/Port\\_of\\_Rijeka](https://en.wikipedia.org/wiki/Port_of_Rijeka)
- salalahport. (n.d.). *Who We Are*. Retrieved from salalahport: <http://www.salalahport.com/index.php?lang=en&name=Who%20we%20are&itemid=65>
- Savas, E. S. (2000). *Privatization and public-private partnerships*.
- SCCT. (n.d.). *Suez Canal Container Terminal* . Retrieved from scct: <https://scct.com.eg/general-information/>
- Stamatović, K., Langen, P. W., & Groznic, A. (2018). Port cooperation in the North Adriatic ports. *Research in Transportation Business and Management*, 13.
- Verhoeven, P. (2010). *EUROPEAN PORT GOVERNANCE*.

World Bank Group. (2015). *PPP Contract Types and Terminology*. Retrieved from pppknowledgelab:  
<https://pppknowledgelab.org/guide/sections/6-ppp-contract-types-and-terminology>

World Bank Group. (2016, 07 13). *Full Divestiture / Privatization*. Retrieved from ppp.worldbank:  
<https://ppp.worldbank.org/public-private-partnership/agreements/full-divestiture-privatization>

World Bank Group. (2016, 07 13). *Leases and Affermage Contracts*. Retrieved from ppp.worldbank:  
<https://ppp.worldbank.org/public-private-partnership/agreements/leases-and-affermage-contracts>

World Bank Group. (2019). *Private Participation in Infrastructure (PPI)* . Retrieved from ppi.worldbank:  
<https://ppi.worldbank.org/en/methodology/glossary>

worldportsource. (2019). *King Abdul Aziz Port*. Retrieved from worldportsource:  
[http://www.worldportsource.com/ports/commerce/SAU\\_King\\_Abdul\\_Aziz\\_Port\\_648.php](http://www.worldportsource.com/ports/commerce/SAU_King_Abdul_Aziz_Port_648.php)