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1. Summary

This study examines the essential role of ports in the facilitation of trade and their value to the local and national economy. The study further examines the importance of the organisational structure in the port and how this impacts efficiency and the implementation of best practices. Ports infrastructural developments are examined together with the resources that are available for support funding through TEN-T. The relevance of Corporate Social Responsibility in port operations is also examined. The interaction between port development and environmental concerns is analysed particularly in the context of the Birds and Habitats Directive. The study draws on the experiences of Dublin Port Company and the changes they have effected to their management structure to ensure the commercial viability of the company.

Target Stakeholders

- Port and terminal management and stevedoring companies;
- Customers of port services, e.g. ship operators, haulage operators, forwarders and shipping agencies;
- Port-related companies operating in the port environs;
- Training & educational colleges, institutes and companies;
- European, state and international training authorities and agencies.
- Local port communities

Approach

The study was carried out using a combination of desk-top literature review of documents together with an on-site case study with Dublin Port Company. The study has the following general structure:

1. Investigation of the role of ports in the facilitation of trade. This section looks at the strategies employed to secure maritime trade. It further examines the relationship between GDP and trade.
2. Port organisational structures – the World Bank classification of port management structures and the typical operations undertaken by each.
3. Port infrastructural developments. This section deals with the factors that necessitate infrastructural developments in port and also the support funding opportunities that exist to enable such development. A perspective on the influence of an effective Corporate Social Responsibility is also provided.
4. The interaction between environmental concerns and port infrastructural developments. This section details the effect of the Birds and Habitats Directive on port development plans and how conflicting interests may reach a compromise arrangement.
5. Analysis of some of the recent pronouncements from the European Commission in relation to maritime strategy objectives. These ambitious documents provide a necessary insight into the

policy considerations of the Commission which must be balanced between economic, environmental and social concerns.

6. Case study on Dublin Port Company. This provides a valuable understanding of the workings of Ireland's largest port and charts its success from its inception as a company.
7. Conclusions and recommendations are outlined.

References

Key projects

'Effective Operations in Ports (EFFORTS)'

'Tools and Routines to Assist Ports & Improve Shipping (TRAPIST)

'Sustainable Knowledge Platform for the European Maritime and Logistics Industry (SKEMA)'

'Promotional Platform for Short Sea Shipping & Intermodality (PROPS)

"Port Reform Toolkit: Module 3 – Alternative Port Management Structures and Ownership Models" World Bank

Key web sites

www.efforts-project.org

http://www.necl.ie/trapist/index.htm

http://www.skematransport.eu/

http://www.props-sss.eu/

http://r0.unctad.org/trainfortrade/euframes/ptpen/PTP_GeneralOverview_English.pdf?id=2056

http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/EXTPRAL/0,,contentMDK:20517158~pagePK:148956~piPK:216618~theSitePK:338594,00.html

http://www.dublinport.ie/

http://ec.europa.eu/transport/infrastructure/index_en.htm

http://ec.europa.eu/environment/index_en.htm

2. Ports and their Role in the Facilitation of Trade

2.1 Imperatives & Strategies to Secure Maritime Trade

It has long been understood that wealth emanates from trade and that the focal points of maritime trade are ports and the cities that are built around them. Probably the best known example of the effectiveness of port cities as trading centres is the Hanseatic League (the Hansa) that flourished between the 13th and 17th centuries. The Hansa was centred on the free Hanseatic city of Lübeck and provided the framework for maritime trade between port cities in the Baltic, Scandinavia and the North Sea. Its demise was brought about by the increased effectiveness of Dutch and British traders, who broke the monopolistic position of the Hansa. Nevertheless, there remains strong evidence of a once glorious period of the free Hanseatic cities in Germany, the Baltic, Scandinavian and North Sea states, which bear testament to the strong links between ports, maritime trade and wealth generation.

Waterfront in Bergen, an old Hanseatic city

A formal exposition on the value of trade is attributed to David Ricardo (1772 – 1823), an influential political economist and a member of the British Parliament. He demonstrated in his famous 'Theory of Comparative Advantage' that it benefits two states to trade with each other, even if one is more efficient than the other in all forms of production, as long as states specialise in areas in which they have greatest comparative trading advantage. The key for wealth generation, therefore, is for a state to specialise in its strengths for its exports and to import its other requirements, thus concentrating its capabilities on what it is particularly good at producing. As an added bonus, specialisation helps achieve economies of scale and advances innovation.

Ricardo's theory is one of the most important concepts in international trade. It is also one of the most commonly misunderstood. A well-worn story that is worth repeating is how the economist and Nobel laureate Paul Samuelson (1969) was once challenged by the mathematician Stanislaw Ulam to name a proposition in the social sciences that is both true and non-trivial. It was several years later that Paul Samuelson gave his response – Comparative Advantage, stating:

> "That it is logically true needs not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them."

Ricardo's theory provided a theoretical basis for the expansionist policies of the 19th century, when some European states strove to secure colonies as captive trading partners. These policies were supported by mainstream economic theories of the time, which propounded the law of diminishing returns for the production of food & raw materials from the colonies, and the law of increasing returns for the production of manufactured goods from the ruling countries[1].

Many independent European states were late-starters to the industrial revolution in the nineteenth century. They were able to catch up with British industrial pioneers relatively quickly because learning and imitation are cheaper and faster than innovation and testing. Colonial states could not follow the lead of independent states because of restrictions imposed on the goods that they produced and on the states with which they could trade, to the extent that states such as India encountered de-industrialisation and a decline in their artisan activities after colonisation.

After World War 1 the colonial hegemonies began to break down and newly independent states were left to their own devices. They had to deal with the many problems of managing their own affairs, of coping with the financial crash of the 1930's and weathering the devastating events of World War 2. After WW 2 several economists[2], using the platform of the United Nations and UNCTAD, advocated Import Substituting Industrialisation (ISI)[3] as a viable alternative to 'free trade' for emerging states. Under the influence of these economists, as well as being driven by economic nationalism, many governments of the newly independent colonies & semi-colonies, and many Latin American countries followed the ISI strategy route.

In the rapid industrialisation following the implementation of an ISI strategy, countries require ever-increasing quantities of imported materials to service their production, resulting in rapid growth in the demand for foreign exchange, with possible balance of payments problems. Protected domestic industries can become inefficient and their produce is often of embarrassingly poor quality compared to internationally available products. An almost universal policy response is to seek to increase both exports and imports under some variation of free trade. Free-trade is not necessarily a panacea for all economic problems. Ex-colonial states have experienced various levels of exploitation under the mantle of 'free trade' and are naturally wary of it. All states have to contend with dumping, currency devaluations, selective barriers or incentives, regulatory delays and ingenious ploys to achieve trading advantage.

2.2 GATT & WTO

In order to overcome the natural difficulties associated with international trade and to kick-start the world economy after WW 2, the General Agreement on Tariffs & Trade (GATT) was established in 1948. GATT had the structure of an international agreement and was a parallel development to the formation of the World Bank and the International Monetary Fund. During the 47 years of its existence GATT achieved a

[1] Prabirjit Sarkar 'Trade Openness and Growth: is there any Link?' Journal of Economic Issues, Sept'08

[2] Several economists e.g. Raul Prebisch, Hans Singer, Celso Furtado

[3] ISI: Substituting foreign imports with indigenous manufacturing in a protected domestic market.

liberalisation of trade. Its systematic reduction of tariffs helped achieve very high rates of world trade growth, around 8% per year on average during the '50s and '60s, and it enabled countries to reap the rewards of trade. It was replaced in 1995 by the World Trade Organisation (WTO), which is designed, like GATT, to supervise and liberalise international trade through a series of multilateral agreements for the reduction of tariffs; it also introduces measures to prohibit dumping, to settle disputes and to deal with the complex issues associated with agriculture, textiles & clothing and internationally traded services.

The most recent WTO round of negotiations commenced in the Qatari capital, Doha, in November 2001, hence its title – the Doha Development Round. After several years of protracted negotiations, agreement has not been reached. The principal issues that are not resolved are:

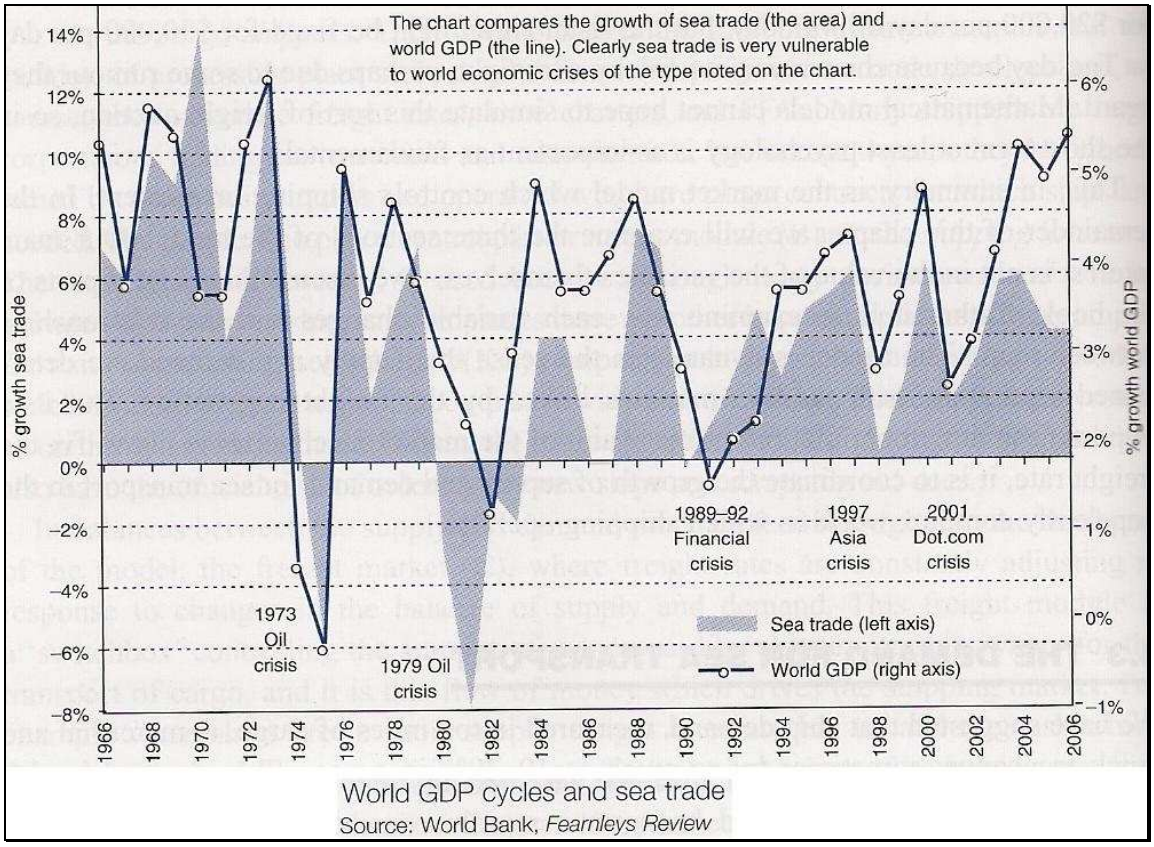
- agricultural market access,
- agricultural subsidies,
- industrial market access to large emerging economies,
- international traded services.

Achieving consensus on the many issues that affect world trade has now become a momentous undertaking. The win-win rewards, as initially expounded by Ricardo, have proven to be very attractive. The rewards, however, are matched by the difficulties in achieving binding multilateral agreements amongst 157 states that account for 95% of world trade.

2.3 GDP, Oil Price & Trade

GDP and trade are inextricably linked and, if managed correctly, a virtuous circle can be established where one augments the other. A graph extracted from Martin Stopford's[4] book 'Maritime Economics' clearly shows the close alignment of maritime trade with world GDP over a forty year period. The graph also shows the approximate 2:1 association between these two factors; that is, a 2% increase in maritime trade has associated with it a 1% increase in GDP.

[4] 'Maritime Economics, 3rd edition' Michael Stopford, Routledge (2009)



World GDP cycles and sea trade
Source: World Bank, *Fearnleys Review*

In an interesting study carried out by the Economist Intelligence Unit[5], the trade flows between three global regions, Asia, the EU and the North American Free Trade Agreement (NAFTA) states, were analysed to determine the effects that (a) changes in the GDPs of the trading states and (b) changes in world fuel prices would have on interregional trade flows.

A gravity model was used in the analysis, in which it is assumed that trade between two states is proportional to the sum of the states' individual GDPs. It was also assumed that trade lags behind GDP, with trade increases, associated with GDP increases, fully realised after five years.

A total of 383 bilateral trade relationships were examined in the study and their GDPs and trade values were analysed for two previous years for the purpose making projections for the following years.

For ease of presenting and interpreting the results, the bilateral projections are grouped into the following trading regions –

The **EU**, consisting of 25 states, omitting Bulgaria and Romania because of their relatively recent addition to the EU,

Asia, consisting of China, Hong Kong, India, Japan, South Korea and six of the most advanced of the other Asian states,

NAFTA (North American Free Trade Area), consisting of Canada, USA and Mexico.

As a further simplification in presenting results, the EU and NAFTA states are grouped under the heading of **WEST**.

[5] 'Fuelling Global Trade – how GDP growth and oil prices affect international trade flows' an Economist Intelligence Unit briefing paper commissioned by DHL Asia-Pacific (2008)

The following is a summary of the study's findings:

	Paired Trading Regions	
	Asia & West	**EU & NAFTA**
% Increase in Sum of GDPs in Paired Trading Regions	Resulting % Increase in Value of Trades between Regions	
1	1.36	1.14
% Increase in Fuel Price	Resulting % Reduction in Value of Trades	
1	0.2	0.12

The conclusions that can be drawn from this study are:

- A 1% increase in the combined GDPs of the states in Asia and the West would result in a 1.36% increase in the value of trade between the regions. This high increase in maritime trade between the regions is explained by the economic disparity between the regions, with the high average GDPs in the West fueling a demand for medium-to-low cost goods from Asian states, with these goods displacing mature manufacturing facilities in the West.
- A 1% combined GDP increase between EU and NAFTA states would result in a 1.14% increase in the value of trade between the states, a not insignificant increase, but much less than that between Asian states and the West. A possible reason for the disparity is that people in the West have a surfeit of high value consumer goods and spend a significant proportion of increased wealth on services, such as holidays.
- A sustained 1% increase in oil prices would, with some delay, reduce trade between Asian states and the West by 0.2%. This does not appear to be much, but oil prices can increase by large amounts and the general trend is reckoned to be upwards. Therefore, a sustained doubling of oil prices (i.e. a 100% increase) would be expected to reduce the value of trade between Asia and the West by 20%, which could be devastating.
- Similarly, a sustained 1% increase in oil prices would be expected to reduce the value of trade between EU and NAFTA states by 0.12%. The reduced impact of an oil price increase on trades between the EU and NAFTA states (compared to Asian states and the West) is due to higher value goods being traded (which are less sensitive to price increases) and the shorter trading distances.

In summary, the Economist Intelligence Unit study highlights –

a. the close relationship between GDP and trade, demonstrating the significant increase in trade between Eastern and Western states associated with an increase in combined GDPs;
b. the reduction in trade associated with an increase in transport costs, specifically the cost of fuel, for trades between Eastern and Western states, as well as between North America and the EU.

2.4 Ports as Facilitators & Sustainers of Waterborne Trade

Ports are the facilitators of trade; they are also the conduits whereby the benefits of trade are realised and distributed to the ports' hinterlands. This can be illustrated through specific examples.

2.4.1 Benefits of Seaports to the US Economy

An extensive study carried out for the American Association of Port Authorities[6]on the benefits of the deepwater port system on the US economy used models based on more than 10,000 interviews carried out over a two year period, as well as 2006 international port statistics supplied by the US Maritime Association and individual port statistics.

The benefits associated with each port were divided into –

a. Direct benefits, which are benefits directly associated with support services to ports and that would suffer immediate cessation if port activity were to terminate;
b. Induced benefits, which are benefits accruing to the regional community associated with expenditures arising from the direct benefits;
c. Indirect benefits, which are benefits generated regionally as a result of expenditures by firms that are directly dependent on port activities;
d. Benefits accruing to manufacturers and distributors arising from their exporting and importing businesses using the ports.

The **impact** of these benefits are – Jobs, Wages / Salaries, Business Revenues and Taxes.

[6] "The Local and Regional Economic Impacts of the US Deepwater Port System, 2006" Martin Associates (Sept. 2007)

Benefits arising from the US deepwater port system (2006), categorised by Direct Benefits, Induced Benefits, Indirect Benefits & Benefits to Exporters / Importers, with Impacts of benefits grouped by Jobs, Wages / Salaries, Business Revenues and Taxes.

Impacts	Direct Benefits		Induced Benefits		Indirect Benefits		Exporter / Importer Benefits		Total Benefits	
	Numbers	Percent of Total	Numbers	Percent of Total	Numbers	Percent of Total	Numbers	Percent of Total	Numbers	Percent
Jobs	507,448	6%	630,913	8%	306,289	4%	6,952,651	83%	8,397,301	100%
Wages/Salaries ($ Billions)	25.3	8%	69.5	22%	12.3	4%	207.4	66%	315	100%
Business Revenues ($ Billions)	71.1	4%	26.3	1%	Data incorporated with Induced Benefits		1,879	95%	1,976	100%
All Taxes ($Billions)	8.3	8%	26.8	26%	Data incorporated with Induced Benefits		67.8	66%	103	100%
Total Economic Benefits ($ Billion)	104.7	4.4%	122.6	5.1%	12.3	4.2%	2,154.2	90%	2,393.8	100%

Notes: 1. The benefits that the US deepwater ports bring to the US economy are enormous: direct economic benefits of $104.7 Billion / yr, induced + indirect economic benefits of $134.9 Billion / yr and economic benefits associated with exporting & importing activities of $2,154.2 Billion / yr. Exporting & importing and the manufacturing and distribution activities associated with them require some explanation. Basically, without the US deepwater ports these activities would wind down to little-or-nothing over a relatively short period of time. Ships & trucks are readily available on the open market, but the ports are the facilitators and enablers of all export and import activity and are essential for the country's economic sustainability. It is understandable that all sovereign states support the development and progression of their ports in order to avail of the economic rewards associated with international trade and to avoid the negative impacts of inadequate or inefficient port capacity.

2. Because of the scale of the study (US Deepwater Ports with all their variations), the percentage benefits for the different categories can be used as indicators for ports in states that are similar to the US and for which such detailed information is not available.

2.4.2 Benefits of Seaports to the Irish Economy

A study carried out for the Irish Ports Association[7] showed the benefits of State Commercial Seaports to the Irish economy in 2004. The Irish and US economies are similar to the extent that their exports and imports are dependent to a large extent on seaborne trade. The Irish economy is one of the most open in the world and the values of exports and imports passing through Irish commercial seaports are proportionately greater than those passing through US seaports. Nevertheless, the format used in the US study is easy to comprehend and it is useful to adapt the findings of the Irish study to this format for comparison purposes.

Benefits of Irish Commercial Seaports to the Irish Economy

	Direct Benefits of Ports + Maritime & Logistics Companies		**Induced & Indirect Benefits**		**Exporter / Importer Benefits[8]**		**Total Benefits**	
Impacts	Numbers	Percent of Total	Numbers	Percent of Total	Numbers	Percent of Total	Numbers	Percent
Jobs	30,183	8%	30,362	9%	297,098	83%	357,643	100%
Wages/Salaries + Economic Outputs (€Millions)	3,821	3%	2,053	1%	146,960	96%	152,834	100%
Total Economic Benefits (€ Millions)	3,821	3%	2,053	1%	146,960	96%	152,834	100%

The data for direct, induced and indirect benefits of Irish ports in the above table were extracted from the Indecon study (reference below).

The exporter / importer data were determined by the Irish Exporters' Association through analysis of the Central Statistics Office employment statistics and the annual reports of the Industrial Development Authority and Enterprise Ireland.

[7] "Economic Impact of State Commercial Seaports on the Irish Economy" Indecon (2006)

[8] Exporter / Importer Benefits are estimates based on Irish Central Statistics Office data and the Irish Industrial Development Authority (IDA) and Enterprise Ireland (EI) annual reports.

Notes regarding benefits of Irish commercial seaports to the Irish economy:

1. Induced and Indirect Benefits are grouped together for convenience.
2. Similarly, Wages / Salaries and all Economic Outputs are grouped together.
3. Unlike the US study, the initial Irish study did not make any provision for Exporter / Importer Benefits, which is a major omission, as seaborne trade is dependent on a country's ports. As such, ports are not like other industries, all of which bring direct economic benefits to a state. The additional benefit of ports is that, for many states, such as the United States and Ireland, they sustain the major portion of their external trade. Without the ports, external trade would cease and the state economies would collapse. The upsides are that efficient ports facilitate external trade and contribute massively to the prosperity of states. In the US study, the Exporter / Importer benefits account for 90% of the total benefits. This can be used as a reference for the Irish study, with a greater percentage figure expected due to the greater openness of the Irish economy, as shown in the table above.
4. The number of people participating in Exporting / Importing is similarly proportionately larger in Ireland than the US percentage.

2.5 Summary of Section 2

Section 2 provides an overview of the role of ports in the facilitation of trade. There has been an understanding since the earliest records of human activity[9] that prosperity is associated with trade. A good example of the trade & prosperity duality is that which was achieved in a cooperative manner in the Hanseatic League (the Hansa) that thrived between the 13th and 17th centuries in the Baltic and some North Sea ports.

A formal exposition of the benefits of trade is attributed to Ricardo in his famous 'Theory of Comparative Advantage'. This was wholeheartedly adopted by several ruling administrations in the 19th century and became the underlying justification for the territorial expansionist policies of the time. Much of the historic territorial appropriations came to an end after the Great War of 1914 – 1918.

The formation of the General Agreement on Tariffs & Trade (GATT) after World War 2 and, more recently, the World Trade Organisation (WTO), have resulted in very high rates of world trade growth being achieved in a relatively orderly fashion. The difficulties in achieving multilateral trade agreements amongst 157 states are enormous. The

[9] Quotes from "The Origins of Virtue" by Matt Ridley (Penguin Books 1997):
"Prosperity is the division of labour by trade; there is nothing else to it. Thousands of years before Adam Smith and David Ricardo were born, human beings had discovered this truth and were exploiting it".

"It is possible that Homo erectus was mining stone tools at specialised quarries, presumably for export, 1.4 million years ago".

perseverance of the negotiators is justified by the rewards of success, as well as the potential chaos of alternative options that had previously been tried and failed.

The relationship between trade growth and GDP growth has been found to be approximately 2:1, with a 2% increase in trade being associated with a 1% in GDP in the trading states. A number of studies have confirmed the connection between trade growth and GDP growth, as well as between factors that inhibit trade and the consequential reductions in GDP.

A comprehensive study carried out by Martin Associates on "The Local and Regional Economic Impacts of the US Deepwater Port System, 2006" shows that the direct, induced, indirect and exporter / importer benefits of US deepwater ports to be impressively large, $ 2,394 billion / year, with 90% of total economic benefits attributed to exporters / importers. Assigning such large economic values to its ports is recognition of the dependence of the US on its ports for international trade and of the consequences of the ports not functioning satisfactorily.

Based on a similar study carried out for the Irish Ports' Association, the estimated total economic benefit of Irish ports is approximately € 152 billion / year, of which 96% of the benefit can be attributed to exporters / importers. The population of Ireland is approximately 72 times less than that of the US; the greater openness of its economy confers a proportionately higher value on its ports than on the ports of the US.

3. Port Organisational Structures

3.1 Overview of Port Organisational Structures

Port management structures appear to evolve slowly over time; and yet, in the last 60 years the changes have been profound and comparatively rapid. During World War 2, ports were vital for essential supplies and were also prime targets for destructive bombing. The work in ports was arduous, dangerous and there was a severe shortage of labour. Hence, emergency measures were necessarily introduced that unfortunately were carried forward in many cases until the 1960's. At this stage, the 'emergency' practices had become embedded 'bad' practices, which accelerated the change from labour-intensive general cargo vessels to the deployment of specialised carriers i.e.

- Tankers for liquid cargoes,
- Dry bulk carriers for grains, ores & coal,
- Container vessels for manufactured goods.

This was a time of great change in maritime transport and was followed, with some delay, by correspondingly large changes in the organisation of ports. These changes were initially tentative and were carried out with great difficulty and considerable cost. The widely used categorisation of port organisational structures that has eventually emerged is elaborated in the 'Port Reform Toolkit[10]' i.e.:

1. **Service ports**, which are publicly owned ports in which the full range of port services, including cargo operations, are carried out by the port authority. This was the standard structure for most ports and is still used. It can have a number of debilitating limitations:
    - Restrictive labour practices can be in place, which limit the flexibility and effectiveness of a port and drive up costs;
    - There is centralised control of all port, cargo handling and service operations, which results in port-centred management that can have difficulty in identifying and responding to market requirements;
    - There may be inadequate funding for infrastructural developments that reduces competitiveness.

2. **Tool ports** are similar to Service Ports in that the port authority owns and maintains the infrastructure and superstructure, including cargo handling equipment, with the port authority's staff operating the equipment. Private stevedoring companies are contracted by the shipping lines to carry out the ship loading and discharging operations, using the port's equipment. A tool port

[10] Refer to 'Port Reform Toolkit – Module 3' (World Bank)

structure can be seen as a transition stage between a service port and a landlord port.

3. **Landlord ports** are characterised by their mixed public-private orientation. The port authority can act as a regulatory body and landlord, while cargo operations are carried out by private companies. The port authority usually sheds most commercial day-to-day activities and manages the infrastructural developments, ship movements and navigation functions. Within a landlord port structure, some cargo terminals may be leased on an exclusive basis by large shipping lines while others may be common-user terminals leased by terminal operators.

4. A **fully privatised port** is the exception and is characterised by a practice initiated in the UK where many state ports were sold off to private owners. In a privatised port, a private company owns the port land, operates the port as a private venture and may also effectively be the regulator.

In the World Bank's 'Port Reform Toolkit', which is a widely used reference in port organisational strategies, the landlord port, by implication, is presented as the favoured model because of its important attributes i.e.

- Private companies usually manage most aspects of the cargo handling function, which, because of its 24-hour variable nature, requires exceptional adaptability.
- Support services, such as warehousing, engineering services, container management, are most efficiently carried out by organisations that compete for business in an open market.
- The state's interests are protected through –
    a. Retention of control of the port infrastructure and of the regulatory function by the Port Authority or another state agency;
    b. Achieving maximum positive impact in terms of numbers of people employed, wages / salaries, business revenues and taxes through the high levels of overall efficiency that can be achieved with a landlord port structure.

3.2 Summary of Section 3

The categorisation of port organisational structures into Service Ports, Tool Ports, Landlord Ports and Fully Privatised Ports has become somewhat hackneyed over time and ports do not necessarily fall neatly into one-or-other of these categories. Nevertheless, it is useful to view ports in this manner and to examine their development along a discontinuous progression from Service Ports to Landlord Ports, with Fully Privatised Ports being the exception and not necessarily an ideal end position.

4. Port Infrastructural Developments

Overview of Port Infrastructural Developments

Section 4.1 examines the wide range of factors that necessitate continuous review, planning and implementation of infrastructural developments in ports.

Section 4.2 presents an overview of port infrastructural categories and their financing options.

Section 4.3 explains at some length the EU's support funding for port infrastructural developments. Knowledge of the support funding is important for several reasons:

- The supports for **studies** help prepare the way for major infrastructural developments, which otherwise may not be successful in receiving planning or funding;
- The supports for **infrastructural works**, besides providing contributive funding, have a valuable catalytic effect on infrastructural developments;
- Knowledge of TEN-T funding for port infrastructural developments is particularly important for small-to-medium ports (SMPs), because many of them appear to be unaware of the availability of such funding.

Section 4.4 addresses a subject that is often under-emphasised in practice: the Corporate Social Responsibility of ports. Neglect of this issue is possibly due to the fact that many ports are in public ownership and sometimes their responsibility to the public is taken for granted – a serious error that can have far-reaching negative consequences. A positive example in this regard is the Free & Hanseatic City of Hamburg, which is on the river Elbe and whose port is 110km from the open sea. It is the largest port in Germany, the second largest port in Europe and the ninth in the world. The Port of Hamburg operates in relative harmony with its local population on the basis of reciprocated respect and mutual prosperity that has persisted for centuries.

4.1 Factors that necessitate Infrastructural Developments in a Port

Planning infrastructural developments, securing permissions & finance and implementing developments is an on-going process in most commercial ports for several reasons:

a. Increased cargo throughputs may require greater capacity at cargo terminals and in the port.

   The response can follow a hierarchical sequence:

   - Application of process management techniques to make better use of existing capacity;
   - Extend working days and hours without the introduction of penal pricing;
   - Investment in more efficient cargo handling equipment and facilities, associated with increased volume throughputs;

- Investment in operational port infrastructure, such as a new terminal, possibly in conjunction with improving / deepening an access channel.

b. The need to accommodate larger and deeper ships, possibly in response to an accumulative market shift that favours larger vessels and the scale economies that they provide. The response is similar to 'a' above, except that it is all-encompassing – possibly a deeper channel, larger turning area, possibly a new terminal with larger and more powerful cargo handling equipment, a faster and more seaworthy pilot vessel, and perhaps the contracting of a larger tug.

c. Introducing new maritime services may require the installation of special cargo-handling facilities, such as a double ramp at a RoRo berth or terminal facilities for handling MAFI[11] trailers.

d. Compliance with various regulations can necessitate major investments in a port, such as security facilities, maritime safety systems, health & safety compliance and facilities required by environmental regulations.

e. Improved ship and terminal technologies adopted elsewhere in an intermodal network can put pressure on a port / terminal to adopt the new technologies in order to maintain its position in the trading network.

f. Systemic change, such as silting or inexorable pressure from urban expansion, may force a port to move some of its operations to a more suitable location, which is a major undertaking requiring massive resources and fraught with risk.

Whatever the reasons, ports have to continuously review, plan and implement infrastructural developments if they are to remain viable. The difficulties associated with infrastructural developments can be formidable from socio-economic and environmental perspectives; these difficulties and possible solutions are examined in Sections 4.3 & 4.4.

[11] Two 40' or 43' trailers or containers doubled-stacked on a flat-bed trailer and hauled onto / off a ship with a terminal tractor. The system is efficient and can be used to carry drop-trailers or containers.

4.2 Categorisation & Financing of Port Infrastructures[12]

It is convenient to categorise port infrastructures and to examine the financing responsibilities for each category, as shown in the following table:

Port Infrastructural Category	**Examples**	**Financing Options**
Basic Port Infrastructure	Maritime access channels; breakwaters; sea locks; rail connections within the port; inland waterway connections within the port.	Basic port infrastructure is fundamental to a port; it is long-lived, costly, does not earn revenues directly. As such, it often receives partial funding from the state or local authority.
Port Infrastructures	1. Quays, jetties and piers; port basins, turning areas & port channels. 2. Aids to navigation, buoys, and beacons; hydrological and meteorological systems; Vessel Traffic Management system; fire-fighting & pilot vessels.	These infrastructures are necessary for the Port Authority (PA) to manage the port in a safe & secure manner; it is therefore normal for the PA to finance them from its revenues.
Port Superstructure	Paving and surfacing, terminal lighting, parking areas, sheds, warehouses and stacking areas, tank farms and silos, offices, repair shops.	Port superstructures complement the commercial port operational infrastructures and can be financed either by the PA or by a terminal concessionaire or lessee.
Port Equipment	1. Cargo handling equipment. 2. Tugs, line handling vessels, dredging equipment.	1. Cargo handling equipment is normally financed and operated by a terminal concessionaire or lessee in a landlord port; 2. Tugs etc are usually contracted or owned by the PA.

[12] Categorisations are based on 'Port Reform Toolkit' Module 3

4.3 TEN-T Funding for Port Infrastructural Developments

The ability of port authorities to obtain funding for infrastructural developments is crucial for their increased competitiveness. The management structure of a port influences the range of funding possibilities that are accessible. The likelihood of success of any development project rests on the level of preparedness of its managers and on the correct application for funding from available sources.

The European Commission, acting through DG-TREN, has devised the Trans-European Transport Network (TEN-T) programme, which is established under the EC Treaty (in Articles 154-156). This programme dedicates financial support towards the realisation of important transport infrastructure projects – promoting the wider European objective of competitiveness, job creation together with social and economic cohesion.

Grants are allocated to works and also to studies, including feasibility studies, comprehensive technical and environmental studies and costly geological explorations, thus helping to overcome early stage project difficulties. Given the substantial grants available for studies (as discussed below), it would be pertinent for port authorities to avail of such funding to better position themselves for development. Studies can highlight the soft value benefits of a port (as discussed further in the section 4.4 'Corporate Social Responsibility of Ports') and provide vital information on the feasibility of a proposed development programme. Studies can be used to assess the support of local businesses and the potential societal benefits of port developments prior to port authorities investing unquantifiable amounts of money in complicated legal battles for planning authorisation.

Some € 8bn has been attributed by the EU to the TEN-T programme for 2007-2013, in order to support works and studies that contribute to the TEN-T programme objectives. In addition, an ad hoc work programme, the **European Economic Recovery Plan Work Programme** (EERP) has been adopted in 2009 in response to the financial crisis. The EERP is designed specifically to support works and attributes €500 million of existing funds in order to support works which can start in 2009 or, at the latest, in 2010 and be largely implemented over this two-year period, or which have already started but can be accelerated over 2009 and 2010.

Other EU funding sources include: European Community funds (ERDF, Cohesion Fund), loans from international financial institutions (e.g. the European Investment Bank), and private funding. Community funding can also facilitate the promotion of pilot schemes for sustainable public-private partnership solutions. It must be emphasised that Community grants are vital for both project preparation and implementation and have a significant catalytic effect. Some

of the most challenging and complex projects (geologically, technically, financially, legally and administratively) have been facilitated through the provision of EU grant assistance.

TEN-T Guidelines were developed to help implement the Treaty provisions and facilitate applications for funding. The Guidelines envisage support for a comprehensive network layer (outline plans for rail, road, inland waterway, combined transport, airport and port networks) and for 30 priority projects. The Motorways of the Sea Programme is one such priority project.

Details of TEN-T Funding for Port Infrastructural Developments:

Regulation (EC) No 680/2007 lays down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks. The Commission has created the Trans-European Transport Network Executive Agency (TEN-T EA) that is entrusted with the management of the Community funds available for the promotion of the Trans-European transport network.

Applications for financial aid must be submitted to the Commission through the intermediary of the Member State concerned or by the applicant organisation with the agreement of the Member State. The Regulation stipulates the information required for the assessment and identification of applications (e.g. name of the body responsible, the type of assistance envisaged and a description of the project concerned). Financial control is carried out by Member States. Without prejudice to this control work, the Commission may send officials or staff to carry out spot checks on the projects financed. The Commission may reduce, suspend or cancel financial aid in the event of irregularities, or if one of the conditions specified in the decision granting the financial aid has not been met.

Community financial aid takes the form of grants for works, studies or studies with physical interventions. The maximum amount of Community aid that can be awarded to an individual Action is defined in Article 6.2 of the TEN Regulation. Within this maximum, additional limits (minimum and/or maximum) may be specified in individual calls.

Works can be defined as the purchase, supply and deployment of components, systems and services, and the carrying out of construction and installation works relating to the project, the acceptance of installations and the launching of the project.

Studies are activities needed to prepare project implementation (including preparatory, feasibility, evaluation and validation studies) and any other technical support measure, including prior action to define the project fully and decide on its financing, such as reconnaissance of the sites concerned and preparation of the financial package. Studies can prove hugely advantageous to a proposed project and provide the necessary insight into the viability of the current works proposed and the sentiment likely for future proposed

developments. Obtaining funding for studies that could prove to be the foundation for the approval of works is a perceptive initiative for applicants and is useful on many levels.

Studies with physical interventions are projects in which the majority of the activities are studies, but where some physical intervention is undertaken, typically excavations for testing the ground.

Community contribution

The total amount of Community aid shall not exceed the following rates:

- 1. Studies: 50 % of the eligible cost, irrespective of the project of common interest concerned;
- 2. Works: Priority projects in the field of transport allow a maximum of 20 % of the eligible cost, or a maximum of 30 % of the eligible cost for cross-border sections, provided that the Member States concerned have given the Commission all necessary guarantees regarding the financial viability of the project and the timetable for carrying it out;

For transport projects other than priority projects: a maximum of 10 % of the eligible cost is allowable.

In terms of road, air, inland waterway, maritime traffic and coastal traffic management systems, a maximum of 20 % of the eligible cost of works is allowable. Funding is also available under the European Rail Traffic Management System (ERTMS) which may be beneficial for port authorities where rail developments are required for access in order to obtain necessary planning permissions.

Eligibility and Award Criteria

Community aid is granted on a priority basis and is intended for projects that are potentially economically viable and for which the financial profitability at the time of application is deemed insufficient. The decision to grant Community assistance is based on a detailed analysis of the proposal in terms of:

Relevance – this refers to the contribution of the proposed action to the TEN-T priorities and the objectives described in the Call for Proposals. This takes account of the macro socio-economic benefits at EU level and the need for TEN-T support. This aspect also looks at the extent to which Community funding of a proposal would have a stimulating / leverage effect on public and private financing and the commitment of various stakeholders. The application should note the added value of EU funding on the attraction of other funding, the acceleration of the works, obtaining lower interest rates from the banks and achieving higher quality standards.

Maturity – this refers to the status of preparation of the activities, in particular the capacity to implement the proposed action in accordance with the foreseen time plan and technical specifications. Assessment of the proposal looks the extent to which:

- Formal approval has been given at governmental, regional, local level.
- Political commitments have been given
- Public consultations have been positively accomplished and the plans to involve stakeholders throughout the proposed action are appropriate and well-developed.
- The project is ready to start from a technical point of view.
- The necessary building permits have been received / the procedures to receive them are well advanced.
- Procurement procedures are defined and well advanced.
- There are risks and factors of uncertainty of legal / administrative / technical / other nature which remain to be settled before activities can start.
- The necessary financial resources have been committed.

Impact – this refers to the anticipated socio-economic effects of the proposed action (at the micro level) as well as the impact on the environment. Assessment of the proposal looks at the implications of the following:

- potentially positive impact on traffic growth, multimodal split, inter-operability, regional or national competition, service quality, safety and security.
- Potentially positive impact on regional and/or local development and land use.
- Potentially positive impact on competition.

The application for funding under TEN-T must include evidence of compliance with Community policy and law. In particular, applicants must state that all relevant environmental, nature conservation and water bodies have been consulted, and that the project complies with the environment-related European Directives[13]. Proposals for studies not involving physical interventions do not need to demonstrate their compliance with Community environmental law. In this case, it must clearly be stated that no physical intervention will take place as part of this Action. An assessment of the environmental impact of the proposed action must take account of:

- emissions, noise, land use etc. and any measures to reduce or compensate for negative impacts

[13] - Environmental Impact Assessment (EIA) Directive (Directive 85/337/EEC as amended by 97/11/EC and 2003/35/EC)
- Strategic Environmental Assessment (SEA) Directive (Directive 2001/42/EC)
- Habitats Directive (Directive 92/43/EEC)
- Birds Directive (Directive 79/409/EEC)
- Water Framework Directive (Directive 2000/60/EC)

- the potential contribution to the re-balancing of transport modes in favour of more environmentally friendly ones
- whether the proposed action would have positive and negative effects on the environment.

Quality – this refers to the completeness and clarity of the proposed action, in terms of the description of its planned activities, the soundness of the project management process and the coherence between its objectives and planned resources / activities. The applicant must provide evidence that it has secured or is in the process of securing adequate financial resources to implement the planned activities, and the revenues foreseen are realistic.

Port Infrastructural Development – Motorways of the Sea

In the context of port infrastructural developments TEN-T funding is available for the development of sea transport in furtherance of DG TREN's Motorways of the Seas programme. Article 12a of the TEN-T Guidelines details the various categories of items which can receive investment financial support under the TEN-Regulation for Motorways of the Seas projects.

Initiatives include support for shipping links for islands and the points of interconnection between sea transport and other modes of transport for example railways. Ports included in the TEN must fall within certain categories[14]. The application should state that the objective of the project is modal shift or cohesion by concentration of flows of freight on sea-based routes by improving existing maritime links or establishing new viable, regular and frequent maritime links for the transport of goods between Member States. The aim is to reduce road congestion and/or to improve access to peripheral and island regions and States. The proposed project must be of common interest, i.e. part of a Motorway of the Sea corridor. Infrastructure that is funded within TEN-T should be open to all users on a non-discriminatory basis. For Motorways of the Sea projects, joint proposals must be submitted, signed by authorised representatives of at least two Member States and involving at least maritime operators and ports in one Member State.

Any project which concerns the following work will be deemed to be of common interest:

- construction and maintenance of all elements of the transport system generally open to all transport users within the port and linked with the national or international transport network.

[14] A. International seaports with an annual transhipment volume of no less than 1,5 million tonnes or 200 000 passengers.
B. Seaports with an annual traffic transhipment volume of no less than 0,5 million tonnes or between 100 000 and 199 000 passengers and are equipped with installation for short-sea shipping.
C. Regional seaports not fulfilling the criteria of A and B, situated on islands or in peripheral regions.

- development and maintenance of land for commercial and other port-related purposes
- the construction and maintenance of road and rail connections, the construction and maintenance, including dredging, of access routes and of other areas of water in the port
- the construction and maintenance of navigation aids and traffic management, communication and information systems in the port and on the access routes.

Infrastructure and facilities in Motorways of the Sea projects may be co-financed through TEN-T and services through the Marco Polo II programme. These programmes can be used in combination or separately for co-funding projects however, funding of the same actions from different EU programmes is prohibited.

4.4 Corporate Social Responsibility in Ports

The motto of the International Association Ports and Harbours is:
"World Peace through World Trade – World Trade through World Ports".
However, ports often have a negative public image and consequently have difficulty in garnering public support for development of any sort in terms of expansion or maintenance works. Indeed, as observed by Michael Grey, senior columnist and former editor of Lloyd's List, it would appear that:

> "All a port has to do to fan the fires of objectors is to announce that it wishes to replace a couple of bollards or to propose a little light dredging. The development of a new berth is a preliminary to hysteria breaking out with demands for public inquiries and regiments of lawyers briefed, along with the involvement of at least half a dozen government agencies".

The negative image associated with ports derives from many factors, including those as listed by Professor Eric Van Hooydonk in his recent publication "Soft Values of Seaports. A Strategy for the Restoration of Public Support for Seaports" (2007). Professor Van Hooydonk notes the perception that ports are centres of moral and political corruption, depressing industrial zones, cesspools of pollution, disaster areas and, crucially, destroyers of the natural environment.

Many port management strategies tend to overlook the need to engage the wider community early in a planned development programme. Strategic reasoning should encourage bringing the public on side with good public relations, identification with port-related events and the use of socio-economic studies which demonstrate the value of a port to its community and to the state.
Four distinct approaches have evolved in the campaign to restore public support for seaports:

1. Development of public relations and external communications policies; organising and sponsorship of public events and festivities.

2. Port managers attempt to convince society of the importance of ports by using objective socio-economic arguments and substantiated commercial analysis and forecasts. Many detractors of ports do not appear to recognise the link between trade and regional prosperity and the necessity of infrastructural developments in ports to facilitate such trade.
3. Application of "green" initiatives in port policy and management. Such initiatives may comprise investments in nature conservation and development measures, co-operation with environmental organisations and granting rebates on port dues to environmentally friendly ships.
4. Implementation of a "stakeholder-relation" management process; that is, the development of good relations with all parties concerned.

Professor Eric Van Hooydonk espouses a potential fifth solution whereby comprehensive "soft value management systems" would be put in place by port authorities to recognise such attributes as the historical, archaeological, architectural, landscape, recreational, sociological and other cultural aspects of the port.

Soft value management for ports is considered to be an underutilised asset. According to Professor Van Hooydonk in his submission to the European Sea Ports Organisation (ESPO), establishing a Soft Value Management System within port operations would be a potent method of fostering goodwill between the port and the neighbouring community. Soft Value Management for Ports is promoted as an important policy tool at the disposal of port authorities to enlist public support and to counter-balance excessively negative environmental assessments of ports as well as their development plans and projects.

5. Interaction between environmental concerns and port activities

5.1 The need to address environmental concerns

The need to safeguard Europe's rarest species and habitats is an indisputable responsibility that applies regardless of borders. The creation of conservation areas throughout Europe strengthens the protection of such species and also provides a safe haven for countless other animals, plants and wildlife which, though not endangered are equally important to our common heritage and natural environment. Migratory birds by their very nature travel the length and breadth of Europe in search of resting, feeding and breeding grounds. If their habitats are only protected in one part of Europe and not in another, the species' chances of survival are inevitably poor.

The continuing deterioration of natural habitats and the threats posed to certain species are some of the main concerns of EU environmental policy. A system of Directives has been developed that reflect the importance of the EU's concerns regarding environmental protection and to ensure that regional policies on agriculture, energy and transport are sustainable. The most important of these Directives are the Wild Birds Directive (Directive 79/409/EEC) and the Habitats Directive (Directive 92/43/EEC). Other Directives include the Water Framework Directive (Directive 2000/60/EC) and Directive 2002/49/EC relating to the assessment and management of environmental noise.

The Habitats Directive was introduced to help maintain biodiversity in the Member States by defining a common framework for the conservation of wild plants and animals and habitats of Community interest. The Directive establishes a European ecological network known as "Natura 2000". The network comprises "special areas of conservation" (SACs) designated by Member States in accordance with the provisions of the Directive, and special protection areas (SPAs) classified pursuant to Directive 79/409/EEC on the conservation of wild birds.

5.2 Designation of sites under the Wild Birds and Habitats Directives

Every country has designated Natura 2000 sites to help conserve the rare habitats and species present in their territory. Over 18,000 sites are included in the Network so far. In total they cover a substantial area: almost one-fifth of Europe's land and water.

Special areas of conservation are designated in three stages. Each Member State must draw up a list of sites hosting natural habitats and wild fauna and flora. On the basis of the national lists and by agreement with the Member States, the Commission then adopts a list of sites of Community importance. No later than six years after the selection of a site of Community importance, the Member State concerned must designate it as a special area of conservation.

Member States must take all necessary measures to guarantee the conservation of habitats in special areas of conservation, and to avoid their deterioration. The Habitats Directive provides for co-financing of conservation measures by the Community.

5.3 Potential impact of environmental legislation on port development projects

Development projects that involve significant changes to the way the land is used within a Natura 2000 site must be first assessed to determine whether the project is likely to have a significant effect on the site's nature values. If the impact is not considered significant the project can go ahead. If the effect is expected to be significant, alternative less damaging options must be fully explored and selected – e.g. choosing another site outside Natura 2000.

The designation of sites under the Birds and Habitats Directives are based on ecological criteria and, as such, economic concerns do not have to be taken into account. This approach has been fully supported by the Commission and the European Court of Justice. The Commission has issued Guidelines for the implementation and management of Natura sites. However, designated areas are often close to or even within areas owned by ports. Many of these areas are allocated by the port for future expansion, often in conjunction with national administrations. Because designation as a special area of conservation limits the possible future uses of the areas, port authorities can be financially affected by these decisions. Birds and Habitats Directives not only affect port authorities when major port expansion projects or capital dredging projects are being planned, they can also affect day-to-day operations such as maintenance dredging.

5.4 Assessing Alternative Solutions

Article 6(4) of the Habitats Directive requires an examination of whether there are alternative solutions or solutions with fewer negative environmental effects on the site concerned, with regard to the conservation aims of the Directive.

The European Seaports Organisation (ESPO) has prepared a Code of Practice on the Birds and Habitats Directives to assist ports in better understanding and implementing these important legislative instruments. Port authorities are encouraged to engage fully with the various social and economic uses within the estuarine area. It advocates preparing an overview of all the different uses with relevant stakeholders (e.g. scientists, administrative authorities, port authorities, fishing, navigation, ornithologists, biologists, recreation, tourism and environmentalists), to identify and analyse which parts of the estuary/port area have the best potential for the different uses as part of developing a shared long-term vision.
It is possible that by actively participating in the establishment of conservation measures and/or the development of a management plan for the site, the impact of the Directive on

routine operations can be reduced. The guidance prepared by the European Commission on how to manage Natura 2000 sites was primarily aimed at Member States' administrations, as they are responsible for implementing the measures of the Wild Birds and Habitats Directives. However, by taking proper account of such documents the port authority can ensure that the recommendations support its own position. Port authorities should also realise that blocking the designation process could impede (future) good relationships and cooperation with conservation agencies, thus potentially interrupting port operations or future developments.

With greater cooperation, the boundary of a designated area could be slightly different or reshaped depending on the interpretation of ecological information. Positive initiatives from the port authorities, such as the creation of buffer areas, may encourage a more positive response from environmental agencies.

An example of positive interaction between the port authorities and environmental concerns is evidenced in the expansion project carried out at the Port of Göteborg, Sweden. The first year of the project was focused on establishing an open dialogue between all interested parties. An agreement was reached for establishing the borders for the Natura 2000 area. Parallel to this, the representative of the port invited the local groups to discuss and develop an ecological alternative to reforming a dumping area in the southern part of the port. Different alternatives were discussed in a constructive way, leading to a suitable compromise for all parties. This solution was slightly more expensive for the port than what was originally intended but the end result was the most satisfactory.

This can be contrasted with the situation arising from port development in Vuosaari Helsinki, Finland. The project, which was socio-economically very profitable for the area, involved extensive construction works to minimise the effects on a neighbouring Natura site. Despite the considerable efforts made to mitigate any possible effects on the Natura site, the Vuosaari Harbour project led to 20 administrative procedures in Finland, and complaints against it had also been lodged with the European Commission and the Committee of Appeals in the European Parliament. Some of the complaints were tools for achieving individual economic goals of landowners and enjoyed the support of nature protection organisations. An underlying problem, therefore, is the possibility of people seeking personal benefit using Natura 2000 as a guise and relying on it in every possible administrative process related to major infrastructure projects.
In the case of the Vuosaari Harbour project, the Supreme Administrative Court decided, following extremely expensive mitigation measures, that the project would have an insignificant impact on the Natura 2000 site and its conservation objectives.

Compensation and Conservation:

In exceptional cases, potentially damaging projects within Natura 2000 can still go ahead if they are considered to be of overriding public interest and no viable alternatives exist. In such cases, compensation measures will be need to be taken in order to ensure that the Natura 2000 Network is not compromised. The conservation measures that Member States have to take are aimed at maintaining or restoring the natural habitat types and species at a favourable conservation status. Favourable conservation status is defined in Article 1 of the Habitats Directive. However, the definition appears complicated because of the many ecological requirements, which can be subjective and undefined.

Under the Habitats Directive, the competent authority must examine the existence of imperative reasons of overriding public interest, including those of a social or economic nature, which require the realisation of the plan or project in question. Whilst port authorities may consider their particular operations to necessitate permission being granted, there is no guarantee that the relevant State administration will grant permission, The negative decision on the port expansion plans for Dibden Bay in Southampton (April 2004) provided a real eye-opener for the port sector in this regard. In that case, the assessment of alternative solutions and imperative reasons of overriding public interest by the authorities resulted in the complete cancellation of the project proposal at a huge financial loss for the port authorities.

When compensation sites are being developed, the port authority should endeavour to identify measures which accommodate the remaining uses of the land to be used for compensation. Such an approach should help to reduce the opposition to the project which is often experienced. As compensatory measures might cause existing users (e.g. fishermen, farmers) to be limited in their activities, a lot of resistance can be expected, often leading to legal complaints and delays in the process.

Port authorities should explore with the environmental agencies and/or NGOs whether there are any possibilities for creating ‘temporary nature’ as part of the compensation scheme. Temporary nature development could relieve the obligation for a plan or project developer to have all required compensation in place before the actual works of the project start. Given that compensation is required, more can be done with the same amount of money if new and flexible approaches are embraced.

5.5 Consequences of Mismanaging Environmental Concerns in Ports

Many of the problems related to the Birds and Habitats Directives as they affect port authorities, result from the failure of national, regional and/or local authorities to take seaport growth and necessary development properly into account when preparing spatial plans. Problems have been exacerbated where there has been a direct loss of capital assets to port authorities. This has occurred where areas of land, which were reserved for future port use, became worthless due to the designation of such areas as Special Protection Areas (SPA)

under the Birds Directive or as Special Area of Conservation (SAC) under the Habitats Directive.

The unintended effect of the application of environmental legislation on port investment projects is in contradiction with the policy objective of creating adequate maritime and intermodal infrastructure to avoid congestion. Ports contribute to sustainable development as they facilitate the use of maritime transport which, per tonnage transported, is less damaging to the environment than road or air transport. In order to accommodate the demand for an increased use of Short Sea Shipping, port and waterway infrastructure needs to be refurbished or newly built[15]. However, the Commission, through DG Environment, has also made it clear that port development cannot occur at the expense of the environment and that economic arguments cannot stand alone.

> "Ports are at the leading edge of the contradictions and conflicts that exist between European policies. It has been shown that small to medium (SMP) regional ports have the potential of contributing positively and massively to European economic policies, to social policies and to transport policies. Yet, they are often thwarted in their aspirations to develop their infrastructures or aqua structures for their own advancement and for the good of the communities that they service. The costs and uncertainties of contending with primarily, the Wild Birds and Habitats Directives are beyond the capacity of many SMPs. The Directives are used to legitimise the blocking of the socio-economic ambitions of whole communities for often unreasonable motives. They have become instruments to the power of the negative and in some cases have had the effect of relegating otherwise dynamic regions to socio-economic stagnation". (Trapist Project 2004)

6. Relevance of the Commission's recent Policy Documents to Ports

The European Commission plays an active role in the promotion of Short Sea Shipping (SSS), recognising that it is a highly efficient mode of transport in terms of environmental performance and energy efficiency. In assisting SSS to become a more attractive choice for transport and freight operators, the Commission has introduced periodic policy documents containing recommendations and actions to be taken.

On 21st January 2009, the Commission issued its most recent policy recommendations in the form of its EU Maritime Transport Strategy, "Strategic goals and recommendations for the

[15] European Commission, Mid-term review of the 2001 transport White Paper, 2006, p. 17

EU's maritime transport policy until 2018[16]" and its "Communication and action plan with a view to establishing a European maritime transport space without barriers"[17].

Port services should be provided in accordance with the measures announced in the Communication on a European Ports Policy[18], prioritising the principles of fair competition, financial transparency, non-discrimination and cost-efficiency.

6.1 EU Maritime Transport Strategy 2009-2018

The "Strategic goals and recommendations for the EU's maritime transport policy until 2018" document recognises as imperative:

- The ability of the maritime transport sector to provide cost-efficient maritime transport services adapted to the needs of sustainable economic growth of the EU and world economies and

- The long-term competitiveness of the EU shipping sector, enhancing its capacity to generate value and employment in the EU, both directly and indirectly, through the whole cluster of maritime industries.

Port development is encouraged as a priority to exploit the full potential of SSS. Maritime transport in the EU is predicted to grow from 3.8bn tonnes in 2006 to an estimated 5.3bn tonnes in 2018 taking into account the current economic constraints on growth.
Ports, as gateways for this increased trade activity, must develop new infrastructures and improve existing facilities, including hinterland connections and freight corridors, to increase port productivity. The Commission has outlined a number of key priorities to attain this goal:

- Fast-track procedures for environmental assessments associated with port expansions should be simplified and standardised as far as possible. To facilitate this, the Commission will issue guidelines in 2009 on the application and interpretation of relevant Community environmental legislation to port developments.
- Projects involving the modernisation and expansion of ports and improving connections with their hinterlands should be prioritised to attract investment.
- Unnecessary administrative barriers (e.g. duplicated cross-border controls) should be removed and the 'European maritime transport space without barriers' should be advanced.

[16] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Strategic goals and recommendations for the EU's maritime transport policy until 2018 (COM/2009/0008) final

[17] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Communication and action plan with a view to establishing a European maritime transport space without barriers (COM(2009) 11)

18 Communication on a European Ports Policy COM(2007) 616

- Reinforce the EU strategy for ensuring the full deployment of Motorways of the Sea projects, further facilitating the start-up of innovative integrated inter-modal transport solutions, simplifying administrative requirements and supporting the Commission's proposed initiatives for greening transport services.
- EU funding programmes such as the TEN-T projects, Marco Polo or the Regional Policy instruments should assist in those developments and address modal shift objectives.
- Economic instruments (such as taxes, charges or emission trading schemes) should encourage users to make use of SSS alternatives. These should address road congestion problems and promote sustainable market solutions. To further improve environmental issues, the Commission supports the concept of a *European Environmental Management System for Maritime Transport (EMS-MT),* recognising that ports are integral to the modulation of port dues and other charges that reward efforts towards greener shipping.
- Promotion of measures to facilitate better connection of islands and long-distance intra-EU passenger transport through quality ferry and cruise services. Allied to this, is the promotion of a quality campaign to address the issue of passenger rights for users of ferry and cruise services in Europe.
- The Commission have also highlighted the need to promote alternative fuel solutions in ports, such as the use of shore-side electricity. The Commission will propose a time-limited tax exemption for shore-side electricity in the forthcoming review of the Energy Taxation Directive as a first step and elaborate a comprehensive incentive and regulatory framework.

The Commission has recognised that the competitiveness of Europe's maritime industries, and their ability to meet the environmental, energy, safety and human-factor challenges they face is influenced to a large degree by research and innovation efforts, which are to be further encouraged. With end users increasingly focusing on the level of "greening" by companies along the supply chain, and shippers demanding environmentally sound transportation, sustainability and corporate social responsibility are increasingly gaining ground as factors of competitive advantage. In that regard, port authorities should seek to optimise their corporate social responsibility initiatives to attract investment and encourage transport users to realise the potential of SSS.

6.2 EU Maritime Transport Space without Barriers

The 'European maritime transport space without barriers' is an ambitious objective that will extend the internal market to intra-EU maritime transport by eliminating or simplifying administrative procedures in intra-EU maritime transport, the aim being to make it more attractive, more efficient and more competitive, and to do more to protect the environment.

During 2006 and 2007 the public were consulted in regard to the creation of a 'maritime transport space without barriers' and a number of pertinent issues were identified including:

- Customs & tax
- Transport rules
- Health protection
- Veterinary protection
- Plant protection
- Security
- Safety
- Environment & waste
- Gathering of trade statistics
- Transport of dangerous goods requirements
- Language difficulties
- Pilotage services
- Electronic manifests not being universally accepted

Arising from this consultation process, the Commission issued its Communication in 2009 and identified five main challenges facing the European port network. Through this Communication, the Commission has acknowledged that Europe needs a network of accessible and efficient ports. Europe needs greater port capacity, and existing capacity has to be streamlined for greater efficiency. The Commission has endeavoured to help European ports meet these challenges, develop their operations and become more competitive through a set of actions comprising legislative measures, measures requiring further preparation which will be proposed at a later stage, and recommendations to the Member States.
The main thrust of the Communication deals with the simplification of the documentation process and the creation of a "single administrative window" whereby operators can lodge all necessary information with a single body to meet all import or export-related regulatory requirements. Insufficient co-ordination at operational level in ports between the various administrative services and operators at port level (e.g. port authority, port terminal operators, customs office, services in charge of health and veterinary controls and inspections, ship agents, ship masters) and at national and international levels have been reported as a major source of unjustified costs for shipping as well as a source of inefficiency. The Communication highlights the importance of inviting local authorities to improve operational co-ordination by making sure that the sequence of administrative steps does not create unnecessary delays. This would assist in reducing the administrative burden for SSS thereby making it a more realistic option for transport operators and users.

A key aspect of the action plan is the concept of "rationalisation of flux and space in ports". This envisages the physical separation in ports of areas reserved for SSS for container traffic and RoRo traffic. The proposed benefit of this measure would be more rational management

of port traffic and faster vessel turnaround times in ports. Whilst this could result in increased infrastructure costs, this measure could provide additional benefits by solving the problem of priority given to deep-sea vessels and allow short sea ships to offer optimised and faster round trips.

With its “European maritime transport space without barriers”, the Commission is seeking to boost the overall effectiveness of intra-EU maritime transport by removing major administrative obstacles to the development of SSS. This mode has an important role to play in helping the EU to honour its environmental commitments and address its energy challenge, through better competition conditions with road transport. The concept is part of a broad strategy that encompasses the Motorways of the Sea programme and new SSS services via the Marco Polo programme and TEN-T projects, more transparent port dues, efficient rail and waterway links with the port hinterland and lower impact of ports and vessels on the environment. SSS can also help maintain the EU's strong know-how in shipping in general and enable it to keep up its position as a key player in the globalisation of the economy.

6.3 Summary of Section 6

The Commission’s recent Policy Documents are of immense importance to ports. They provide a framework for addressing the five main challenges that were identified after a lengthy consultative process with the maritime and logistics industry. These challenges are:

a. Increasing the efficiency and productivity of all European seaports;
b. Balancing the need to increase investment capacity, with due respect for the environment;
c. Modernising the ports’ network by, among other things, simplifying administrative procedures and making increased use of information technologies (e-Maritime);
d. Guaranteeing fair competition between ports;
e. Addressing the human aspect within a new framework for social dialogue.

The timeframe and measures that are proposed by the Commission for meeting these challenges are very ambitious, which should encourage ports to raise their sights and aim for quantum advancements, rather than marginal improvements in their operations.

7. Case Study: Dublin Port Company

7.1 Historical background

Since Dublin's establishment in 988 AD by Norman Vikings, its port has played a huge role in its success. Dublin city, and Ireland, owes much of their prosperity to the trade and industry which surrounds and is facilitated by the port. The medieval port was located on the south bank of the River Liffey, some distance from its current location. During this time, cattle hides were shipped the short distance from Dublin to Britain and to Mainland Europe with the returning ships carrying wine, pottery and other goods.
Dublin became the key centre of military and judicial power under Anglo-Saxon rule. This importance continued under British rule of the "Pale" territory which lasted from the 14th to late 16th centuries. The proximity to Britain and the establishment of British settlers as a result of the Plantations in Ireland at the time further cemented Dublin's strategic importance as a portal city. This continued until the Act of Union in 1801 when the seat of government in Ireland moved to Westminster and Dublin entered a period of decline.

Changes effected on Dublin Bay during this time proved significant to the port's development and strategic importance. In 1707, Dublin Bay was criticised by the Ballast Committee[19] as being "wild, open and exposed to every wind and afforded no place of shelter or security to ships except Clontarf or Ringsend". It was also described as "one of the worst ports in her Majesty's dominion". In 1715, the Great South Wall was constructed to shelter the entrance to the port. Poolbeg Lighthouse was constructed in 1767 as an aid to navigation in the channel. The shipping channel in Dublin Bay was too shallow for larg vessels and many ships were forced to unload their cargo at Ringsend into lighter vessels that could travel upriver.

In 1786, control of the port was transferred to the Ballast Board which was controlled by merchants and property owners. In 1800 a major survey of Dublin harbour by Captain William Bligh, of HMS Bounty fame, recommended that the North Bull Wall should be constructed, parallel to the South Bull Wall to prevent sand building up in the mouth of the harbour. This action deepened the river channel and allowed access for shipping to enter the port area without having to wait for high tide.

In 1867, the Ballast Board was replaced by the Dublin Port and Docks Board which maintains control of the port to the present day. As a result of the enactment of the 1996 Harbours Act, the title of the company is now Dublin Port Company (DPC).

[19] The Ballast Committee, set up in 1707, was a committee of Dublin Corporation with responsibility for the port. In contrast, the Ballast Board (official title the Corporation for Preserving and Improving the Port of Dublin) was an independent statutory corporation established in 1786 to remove power over the port from Dublin Corporation.

7.2 Legislative Changes

The introduction of the Harbours Act in 1996 was the catalyst required to effect a change in the management of port operations in Ireland. The 1996 Act directed that former harbour authorities were to be transformed into companies with powers and functions appropriate to the performance of public functions, but approximating more closely to commercial enterprises. Thus, the 1996 Act resulted in the key ports in Ireland being removed from direct Government department control by giving ports the commercial freedom to operate as a modern consumer orientated service industry.

Since their incorporation in March 1997, port companies have been statutorily responsible under the Harbours Acts, for the management, control, operation and development of their harbours as fully-fledged commercial State companies. The purpose of establishing the port companies was to improve, modernise and provide better port services in a commercial ethos. The Ministers for Transport and of Finance are ultimately responsible for the conduct of the port companies.

A review of ports policy which took place in 2005 reiterated the position that port companies should fund their own operations without recourse to Exchequer funding. Therefore the 1996 Act allowed port companies the freedom to engage in commercial activities and to provide cost effective and efficient services to meet the needs of their customers, the State and the national economy. Port companies were afforded the opportunity to work in conjunction with companies based in other countries. However, this clause required that joint venture operations must aid traffic or tourism in the port area concerned.

This caveat contained in the 1996 Act was consequently an extremely limiting factor and made joint ventures abroad very difficult because of the difficulty in displaying a benefit to traffic or tourism locally. The subsequent introduction of the Harbours (Amendment) Act in 2009 has mitigated this position and has increased the scope of permissible commercial activities outside the harbour limits of the port. The newly inserted Section 12A to the legislation has provided the legal footing for DPC's joint ventures with companies throughout the world.

While the agreements between DPC and other entities do not confer extra trading benefit on Dublin port per se, the increase in DPC's revenue streams will benefit the company and ensure that it does not burden the Exchequer. Indeed, DPC is one of the few State companies actually paying a dividend to the State. In 2008, DPC paid a dividend of €5.1m and from January to July 2009, its interim dividend was €5.3m which represents a 3.9% increase on last years figures.

7.3 Business Strategy of DPC

DPC's relationship with its clients is of huge importance for the effective running of its operations. Customer focussed decision making has elevated DPC's status and profit margins to the levels which they now enjoy. However, the company is not resting on its laurels and seeks to increase both its market share and its importance in European port operations. DPC's evolving business strategy together with its innovative approach to training and up-skilling of staff has contributed to DPC's ability to capitalise on new business opportunities.

A particular strategy which has had a major impact on DPC's profitability was its decision to liquidate non-core activities in which the port could no longer operate economically. Rather than competing with specialist companies who could provide certain services at lower rates, DPC provided the environment for these companies to operate. DPC relinquished control over functions such as cargo handling facilities, crane operation and warehousing facilities in return for more profitable leasing agreements. As a result of this initiative, DPC moved from the Service Port category under the World Bank Toolkit Classification for Ports to that of a Landlord Port. The decision to outsource certain functions to private commercial organisations resulted in staff transfers to these companies and reduced levels of staffing within DPC. This is discussed in more detail in the following section.

DPC's experience as the largest port in Ireland is that competition is best fostered between companies within the port rather than between ports. DPC aims to provide the conditions for its clients to operate effectively by offering guaranteed slot times to its regular users. DPC also encourages its clients to update the port accurately where slot times may need to be altered in exceptional circumstances. The company aims to provide a flexible solution in situations such as these to accommodate its clients.

The operational tactic employed by DPC is to have agreements for a guaranteed level of throughputs from its clients. Any potential deficit in the level of throughputs may result in penalties being charged by DPC. The leasing policy was also changed to introduce the concept of guaranteed throughput capacity. This had a huge impact on the efficiency and profitability of the port operations. The company has undertaken a policy of not offering rebates or volume discounts to prevent distortion of competition between its clients.

Whilst DPC falls under the broad category of a "Landlord Port" in accordance with the World Bank Toolkit classification, DPC does not neatly fall within the constraints of this grouping. DPC has retained and has indeed increased its commercial activities in undertakings which may not be considered as traditional port occupations. In particular, DPC is engaged in:

- property development (for specific purposes connected with the port's activities, not in the context of general commercial use of land);

- imposition of toll charges for the port tunnel
- provision of towage facilities in the harbour
- truck refuelling service (containing a direct pipeline for diesel) where the port is the beneficiary of the profits made.
- provision of training facilities for companies operating within the port

7.4 Personnel Training at DPC

The company recognises that the commercial strength of DPC lies in the competency and skill levels of their staff. In 2001, the company undertook an audit in respect of competencies for all employees. The GAP analysis that followed provided the basis of DPC's educational development programme to redress the low levels of professional qualifications held[20]. A strict programme was put in place with significant resources allocated for the preparatory work. The company have invested 3% of their payroll costs in the educational programme.

As a result of DPC's outsourcing of non-core activities at the port to private commercial interests, significant changes were made in relation to staffing levels at the port. Staff members were given the choice to undertake courses in their chosen areas of interest, funded by the company in addition to maintaining their full salary for the duration of the course. Staffing levels reduced as a consequence with a number of staff pursuing other careers upon obtaining improved qualifications. The high wage costs that existed up until 2002, (85% of the company's costs referred to wages) were dramatically reduced and are now 35% lower than pre-2002 levels. The current wage bill for the company runs to €12m with a staff of 160 people. This represents a reduction of €20m and of 290 staff since 1992.

In recognition of the importance of training and continuing professional development, DPC in conjunction with FAS (the Irish training and employment authority) established the Training and Development Centre in 2006, DPC now provide training facilities for companies within the port as part of their commercial operations.

DPC's training and management techniques have helped them to establish a global reputation for being innovative and sustainable and have contributed to DPC's successful joint venture operations. The following section details the company's involvement with UNCTAD in their 'train the trainers' initiative known as "Train-for-Trade".

7.5 Corporate Social Responsibility

DPC recognises the importance of maintaining positive relations with the local community and fostering new and better interactions to help garner support for current and future port developments. The company is actively engaged in a number of community initiatives and

[20] Only 7% of employees held a professional qualification while 14% held a basic primary level education standard. In addition, computer illiteracy among staff was at an alarmingly rate of 70%.

promotes a strong culture of social responsibility throughout the company. DPC established its Community Liaison Committee in 1995 to facilitate the company's communication with the community in the local port area.

An important aspect of DPC's social responsibility is to foster the perception of being recognised as a company as distinct from an authority. The "company" perception is more service focussed, whilst the "authority" attitude gives the impression of an authoritarian body. The distinction in attitude between these two views is visible both from within and outside of the port and staff members are encouraged towards the former attitude. Part of DPC's Mission Statement contained in its Code of Conduct for its employees and directors refers to the company's adherence to operating "in a way that is sensitive to the local community and which sustains the environment".

DPC aims to provide assistance to the local community that is not currently being provided by other State bodies. This includes:

- Providing University scholarships for members of the local community
- Assisting local drugs prevention and rehabilitation group RDRD (Ringsend & District Response to Drugs Project)
- Sponsorship of local football and rugby clubs
- Sponsorship of a major local art exhibition
- Provision of assistance to communities abroad

DPC has, on a number of occasions, been the recipient of the Chambers Ireland President's Award for Corporate Social Responsibility - the Good Neighbour Award for SMEs. This award was presented in particular recognition of DPC's contribution to the local community through their Community Scholarship Programme and also for its attempts to incorporate social and environmental concerns into their business operations

International CSR

DPC were honoured by Chambers Ireland for their involvement in the relief and support efforts in the aftermath of the devastation caused by the tsunami in the Indian Ocean in 2004. DPC, together with the local community surrounding the port, became actively involved in supporting Indonesia's Banda Aceh region. This came as a result of the first hand experience of a member of DPC's staff who was on holiday in the region at the time and survived the tsunami. DPC provided €200,000 of the €250,000 necessary to reconstruct a school in the area. This was the first infrastructural project completed in the entire region and provided a much-needed morale boost for the community as well as providing essential employment. The project undertaken by DPC also made provision for the establishment of a Community and Health Centre located beside the school. DPC have further provided sponsorship of an

education fund for the school. This fund provides books, uniforms and materials as well as ensuring adequate transport facilities for the pupils.

7.6 Extension of global business management operations

As mentioned previously, the Harbours Act 1996 limited the scope of the company's ability to attract and participate in joint ventures with international organisations. Through the extension of powers granted to DPC in the Harbours Act 2008, the company has consistently looked for growth opportunities abroad. DPC have developed their reputation as strategic business consultants to an increasingly wide audience. The following section details some of the joint ventures in which DPC are currently engaged abroad:

Indonesia:

As part of DPC's involvement in charitable causes in the Banda Aceh region, the municipal authorities in the area sought the company's assistance in formulating a business case analysis for reconstruction of the port infrastructure which had been devastated in the tsunami. DPC now lead a regeneration project and a port development in Banda Aceh. It is envisaged that the port will become a prominent free-trade zone for transhipment operations in the Indian Ocean. DPC also operate in Indonesia as part of the UNCTAD Train-for-Trade Programme.

UNCTAD Train-for-Trade Programme:

DPC have entered into a partnership agreement with UNCTAD in respect of UNCTAD's port training programme "Train-for-Trade", which provides training in port management and transport logistics to officials in developing countries. Train-for-Trade helps developing countries acquire the necessary skills for more effective participation in the global economy. Under the scheme, DPC provides financial contributions and practical assistance in the form of training workshops and technical knowledge to port administrations in developing countries including Indonesia, Malaysia, Ghana and Djibouti.

India:

The CEO of DPC, Enda Connellan, was part of a trade mission to India together with members of the Irish Government. The shipping and port companies present were interested in the DPC business model in order to improve their own management and logistics operations. DPC were invited to become strategic consultants in that regard.

Cambodia:

DPC's involvement with the UNCTAD training programme led to DPC being invited to participate in a joint venture to establish a feeder port operation in the country.

7.7 Infrastructural Development Difficulties

In order for DPC to augment their commercial operations and continue to contribute to trade growth in Ireland, further development of their existing facilities is essential. The future expansion of the port is of crucial strategic importance for the company. The current economic recession has inevitably had an effect on utilisation, however DPC are preparing for the subsequent upturn in the global economy and providing for increased capacity is a key aim in that regard.

DPC are engaged in a long running application to reclaim part of Dublin Bay with a view to extending capacity at the port by 21 hectares and increase unitised container traffic by up to 50%. Large areas within Dublin Bay have been designated as Special Areas of Conservation under the Birds and Habitats Directive. This designation and the concerns of some local residents regarding the potential loss of visual amenities in the area have given rise to a protracted and complicated scenario which has no discernible end in sight. A consequence of the opposition to the proposed infill of land at Dublin Port has been the suggestion of moving the port's operations to a green-field site at Bremore, Co. Dublin. The argument by the objectors has been made that moving the port from Dublin City will be the best solution to all sides of the dispute, providing capacity and potentially limiting the environmental impact on Dublin Bay in so doing.

However, such an approach is simplistic, driven by economic and environmental inaccuracies and is unlikely to prove achievable. From DPC's perspective, there is no clear public understanding of the value and prosperity that ports bring to society. The perception is that the land the port is built on is the only useful thing about the port. The development potential of the land around Dublin port is estimated to be significantly lower at the current time given the evaporation of the "property bubble" in the Irish economy.

As DPC operates as a commercial entity, other local authority bodies do not regard it as part of the public service 'family' and do not support it as such. Indeed, many other public entities have come in direct conflict with the company over the designation of part of the port's area as a Special Area of Conservation under the Birds and Habitats Directive. Other agencies have been engaged in publicity campaigns in an effort to secure a position on moving Dublin Port to Bremore.

DPC continue to battle the concept that a privately owned service is better managed and more efficient than a publically owned one. The assumption persists that if the State is the owner of an entity, it must not be as well adapted as a private enterprise. At the time of writing, DPC are awaiting confirmation from the Irish Planning Authority Appeals Board on the status of their application for development.

7.8 Conclusions

Key Performance Indicators			
	1998	**2007**	**% Change**
Employees	455	193	**(58%)**
Turnover	€49,107,000	€70,450,000	**43%**
Tonnes Import & Exports	39,954,000	54,139,000	**36%**
LoLo (TEUs) Imports & Exports	519,120	891,456	**72%**
Trailers Imports & Exports	472,192	768,863	**63%**

The success of the structural and organisational changes introduced by DPC is clearly evidenced in the above table. This time period incorporates the intensive training programme and up-skilling of staff as outlined. It also encompasses the change in DPC's business strategy whereby less profitable services were outsourced to private enterprises and the company obtained valuable leasing agreements as a result. The company achieved record profits prior to the current global recession and have maintained a strong economic position since. In addition, the company has contributed a considerable dividend to their shareholder, the State, despite the reduction in throughput this year. Through their management style and adaptive strategies, DPC maintain their enviable position as the most successful port in Ireland.

8. Conclusions

This report has assessed the crucial role which ports occupy in the facilitation of trade and the impact this has on both the economy of a State and the trading relationship between nations. A number of salient points can be drawn:

- Ports are essential to maintaining and instigating growth in the national economy and have a direct effect on GDP. The estimated economic activity in Ireland that is sustained by Irish ports is approximately €152 billion/yr, with 96% of the benefit attributable to exporters/importers.
- Ports are however, undervalued by the local and national communities which they service. The negative image of ports must be addressed and the benefits extolled. A crucial aspect of this is the investment by the port in a Corporate Social Responsibility programme to engage with the local community and ease concerns surrounding future port development. Ports should develop a soft-values management strategy to highlight the port's importance to trade and community development.
- The organisational structure within the port is of crucial significance to its efficient and successful operation. Dublin Port Company exemplifies this whereby a move from a service port to a landlord port structure resulted in increased operational efficiency and record profit generation. DPC maintains that the perception that a State-owned organisation cannot operate as effectively as a privately owned corporation is a fallacy.
- The European Commission recognises the importance of ports to the survival of the common market and in the interests of sustainable transport. Support funding strategies are in place to aid the setting up of new shipping services and for port infrastructural development to ensure capacity and sustained growth. Only viable projects will be supported by the Commission under a strict assessment procedure. Funding is available for studies and works and could aid strategic planning in ports by presenting the feasibility of proposed works.
- The unintended effect of the application of environmental legislation on port investment projects is in contradiction with the Commission's policy objective of creating adequate maritime and intermodal infrastructure to avoid congestion and emissions. Ports need to be aware of the potential impact of their activities on the surrounding environment and should explore all alternatives in consultation with interested groups. Ports must also be cognisant of the Commission's recent policy documents in this regard.
- Training and up-skilling of all staff is vitally important to a port's success. The impact is clearly evidenced in Dublin Port Company's impressive change in key performance indicators following an extensive investment in training.

9. Recommendations

It is important, especially in the current constrained economic climate, to capitalise on the many advantages which ports bring to their local and national communities and economies. The stimulation of trade and economic recovery is hinged precipitously on ensuring capacity and free flow of goods within the EU. It is recommended therefore that:

1. Port management authorities should critically evaluate their current management practices in accordance with the World Bank Classification. A crucial change in managerial strategies may prove to be a lucrative business decision. This can be evidenced clearly in the experiences of DPC in the cessation of non-core activities at the port. Port management were free to carry out their business functions with a constant revenue stream from leasing agreements to private companies engaged in those activities. Competition should be fostered between companies engaged in operations within the port, with the management of the port being the preserve of the port company.
2. Port management authorities should undertake a competency skills audit which encompasses all levels of staff. An appraisal of all staff competencies will provide the basis for relevant training modules and engaging in continuing professional development will instil a strong efficient work ethic throughout the company.
3. Corporate Social Responsibility should not be a mere tokenism. Port companies should invest resources into the promotion of a positive image in order to foster better relations with their local communities. This strategy can have the constructive effect of easing friction between competing interests on issues such as port expansion and maintenance works together with environmental planning applications. Ports must invest in a strong marketing campaign to highlight the value of the port to the community.
4. Port management companies and companies operating within the port should avail of substantial European support funding to supplement their business development strategies. TEN-T funding is available for feasibility studies up to a maximum of 50% and port authorities should engage in supported studies to maximise their development potential.
5. Port management authorities should pay special attention to the new policy documents released by the European Commission which may provide opportunities for port development. Ports should rely on the Commission's objectives with regard to guidance on the conflict between port infrastructural developments and environmental concerns.