ARE YOU waiting for the economic recovery to start planning a port expansion project? Then you may be too late. Now is the time for action if ports want to deal properly with future pressures. According to the Organisation for Economic Co-operation and Development Composite Leading Indicators (OECD CLI), published in early November 2009, the economy is starting to show signals of recovery. Clearly those “green shoots” have to be carefully nurtured. But even before the current economic downturn, the navigational infrastructure in many regions was not meeting demands. Whether in India, China, Europe or the USA, the maritime and inland waterways infrastructure was lacking capacity. The three largest European ports – Antwerp, Hamburg and Rotterdam – suffered from significant congestion in recent years as did other ports that are located in densely developed urban areas. With the OECD’s forecast of economic recovery, the pressure on these ports and their surroundings, and on navigational infrastructure in general, will certainly increase again. Many port authorities are aware of this and already planning expansions or restructuring, either as a part of their long-term master plans or as a part of newly revised plans.

International dredging and maritime construction contracts have continuously been involved in these port development and maintenance projects worldwide. Their experience is extensive. In 2008 alone, the investments by ports in dredging were over 5 billion euro. Increasingly, the lead contractor in port development projects is an international dredging contractor. So, before postponing plans for port expansion because of the economic downturn, it might be wise to learn from the global experience of international dredging contractors that are well aware of the social, financial and ecological pressures that ports have to deal with. Applying these lessons will support further economic recovery in general and future port development specifically.

Ports and their surroundings

The locations in which ports operate are often valuable and very productive. These areas provide opportunities for agriculture, fisheries and trade, as well as being strategic positions for port cities and industries to develop. Large ports and large cities go hand in hand. Ports operate in urbanised areas with intense social pressure. Often they also operate within vulnerable ecosystems. But ports also have to deal within their budget and financial conditions that have deteriorated over the last two years.

Financial pressures and how to deal with them

Looking at traditional economics, ports tend to be trapped in the economic cycle when making their investments. The cobweb model, based on production lags and adaptive expectations, predicts that when prices are high due to high demand, more investments are made. When the market becomes saturated, prices decline but by then it is too late. When demand is low, nobody has the courage or the money to invest. This behaviour repeats itself cyclically. The resulting supply-demand graph resembles a cobweb. Since port development projects often have long lead times, ports are very vulnerable to this economic cycle. Some ports, however, dare to invest in reverse to this cycle. Singapore did anti-cyclical investments in 2001 as they are doing now. Rotterdam is currently investing heavily in its Maasvlakte 2 extension. Both ports have prepared these investments thoroughly and will be ready for the future. For them these investments in dredging activities and maritime infrastructure mean being prepared for the economic revival.

Recognising budget constraints

As stated above, many ports nowadays face the difficulty of making decisions with limited resources. This is one of the reasons why more and more ports are implementing a partnering relationship with their contractors. A partnership is defined as a collaborative process, aimed at promoting openness, trust and sharing risks and accountability. A port and contractor engaged in a partnering relationship should decide on their organisation and management levels of co-operation. In a partnering relationship all parties are organised in a single co-operative philosophy. The communication is increased and there is focus on time and service. Therefore, long-term relationships are encouraged. In a partnering relationship, the port or contractor, can be the client of the other. This relationship can be compared with a Traditional relationship, a Co-operative relationship and an Alliance relationship. In an Alliance relationship the parties to the project are allocated and the parties to the project are more interdependent. In a Traditional relationship the parties to the project are more independent. In a Co-operative relationship the parties to the project are less independent. This explains the relationship between the port and contractor where trust is the key word to be able to make decisions. Partnering is a form of co-operation, bound to the project. For more complex projects, the traditional, partnering or alliance relationship will be needed. In a Traditional relationship there is a competitive relationship between the client and the contractor. For more complex projects, the traditional, partnering or alliance relationship will be needed. In a Traditional relationship there is a competitive relationship between the client and the contractor.
bureaucratic constraints. They might tend to procure the lowest bid when they invest in their port development—a strategy that often proves to be ‘penny-wise and pound-foolish’. A port should choose the contractor who offers the best value for money and who is willing to operate as a partner. The most economical service means the contractor who has the appropriate equipment and can deal with the social and environmental constraints of the port.

Procurement

For the success of a project, price should not be the only threshold a contractor has to meet. Good safety and health management, good capabilities to handle environmental constraints, the general capacity to undertake projects of a given type and size on time are of equal or more importance.

The procurement process should explicitly include these quality thresholds.

For more complex projects, the traditional relationship between the port and the contractor is insufficient. In the traditional, ‘competitive’ relationship, responsibilities are allocated and the partners to the project act out of their own, often conflicting, interests. The client wants a low-cost, inexpensive project, the contractor wants to earn as much as possible. There are many examples where this leads to less than optimal interaction resulting in adversarial relationships amongst players in the port development project and low-cost situations. For the port this may result in hidden costs, for the contractor in penalties for situations that were unavoidable. In both cases, neither the client nor the contractors are really satisfied.

Contract forms

The opposite of this is partnering. Partnering is a form of co-operation, bound in a partnership agreement between the port and the contractor whose trust is the basis of the relationship rather than distrust. Going even a step further is the so-called ‘alliance’ contract. Alliance contracts involve a collaborative process, aimed at promoting openness, trust and sharing risks and responsibilities. For a small-scale, straightforward, short-term job, a traditional contract may be just fine. But recent cases such as Maasvlakte 2 in the Netherlands and the port of Melbourne, Australia have proven that for a large-scale, complex project which requires long-term planning and execution a partnering relationship or an alliance relationship offers the opportunity to work to everyone’s satisfaction in a cost-efficient manner.

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Social pressures and how to deal with them

Ports work in situations with many stakeholders: residents, industries, fisheries, farmers, environmentalists and the community in general. This means ports have to deal with extreme political pressure. Sustainable port development, therefore, requires a culture of dialogue, consensus building, partnerships and co-operation. Dialogue goes beyond reaching out your key messages to the public. Dialogue is about listening to each other and learning from each other. Port authorities need to
recognise issues of community concern in the earliest stages possible. Stakeholders should be able to contribute to the planning process to limit public concern, controversies and reactions arising afterwards. Crucial to the planning of complex port projects is the establishment of consultative groups and building partnerships with other stakeholders. In recent years, the importance of stakeholder participation has been recognised more and more. If the port does not spend time and money on stakeholder participation upfront and does not take the environmental concerns of the broader public seriously, environmentalists groups and residents will see you in court. This results in project delays and even suspension of projects. Ecological pressures and how to deal with them

Ports often operate in valuable and vulnerable ecosystems. These ecosystems demand special attention, attention that they often do not get in a timely fashion. The traditional way of engineering is the sequential process of: 1) recognising a need, 2) engineering the design, 3) taking mitigation and compensation measures for adverse effects, and 4) doing the job. Currently, most port developments use this defensive Environmental Impact Assessment approach, mitigating and compensating adverse effects. If, however, we take a closer look at port development projects worldwide that are being delayed or have been stopped, the usual reason is because the nature and the environment are being considered far too late. The results can be disastrous: The port and contractors land up with an uphill struggle to mitigate and compensate adverse effects. An integrated approach for port planning and development recognises the dynamics of nature. It takes the natural environment as a starting point for project development and assessment. It incorporates the knowledge of the local ecosystem in the project design at the earliest stages of the project. In this ‘Working with Nature’ approach, the knowledge of the ecosystem is used to identify all functions of a system. The ‘Working with Nature’ approach is more sensible because it helps to reduce overall costs, it reduces project lead times and it reduces stakeholder protests and delays. It is aimed at the synergy and cooperation that will allow natural ecosystems and human intervention to reinforce each other. Ports should take the natural environment as a starting point for project development and assessment. This is not a ‘radical environmentalist view’ but a sensible approach reducing costs and lead times. Dredging and maritime engineering are an essential part of port development, but dredging is admittedly a tool which changes the environment. It is a tool aimed to alter environmental circumstances and no one is more aware of that than dredging contractors themselves. ‘Working with Nature’ is an approach the international dredging contractors have found time and time again to work optimally for all parties and stakeholders. Finally... Key to a successful port development project is getting dredging and maritime construction contractors involved early, before the pen has touched the paper in the planning process. Within the realm of the international dredging contractors lies a wealth of expertise and experience on offer to each and every port authority. That’s an offer that’s too good to be refused.